

Research and Environment Prize

Craig J.Venter

J. Craig Venter Institute – USA

“Genome Transplantation in Bacteria: Changing One Species to Another”

J.Craig Venter, the American biologist who founded the Institute for Genomic Research where the mapping of the human genome has been accomplished, headed the development of new methods and techniques to change one bacterial species into another through the transplantation of the entire genomes . The original chromosome disappears and the phenotype of the cell changes to that of the new chromosome.

This highly innovative research is an essential step in the new field of synthetic genomics, which presages the dawn of redesigned organisms with new cell functions. It includes in fact the key mechanism by which chemical synthesized chromosomes can be activated into viable living cells

The obtained results present limitless applications that could lead to new processes for sequestration and environmental remediation. Paving furthermore the road to the design of novel metabolic pathways for the production of advanced biofuels from a variety of biofeedstocks.