PROFESSOR DES HIGGINS
IMPACT JOURNEY

In 1988, Professor Des Higgins developed a computer programme called Clustal that could quickly compare sequences of genetic information.

It is now a global standard, used hundreds of times a day by scientists addressing real-world challenges. As a result, Professor Higgins' Clustal publications are among the most highly cited in the world.

01 INPUTS

Existing knowledge

Challenge: Tired of comparing sequences of genetic information by hand

02 ACTIVITIES

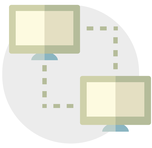
Developing 'Clustal', a computer programme able to quickly compare large amounts of genetic information

Collaborating with other researchers on more and more powerful versions of the programme

03 OUTPUTS

Clustal software, made freely available to all

A series of academic publications describing different versions of the programme



04 OUTCOMES

Clustal shared widely among the scientific community, initially on floppy disk

Over 150,000 citations, with one paper in the top ten most cited of all time

Clustal hosted on large servers, like the one at the European Bioinformatics Institute

05 IMPACTS

ACADEMIC

Clustal is a global standard, used hundreds of times a day

SOCIAL

Clustal used to address various real-world problems, including:

- Tracking infectious diseases
- Producing biofuels
- Creating disease-resistant plants

ECONOMIC

Clustal used by companies to make genetic comparison vastly more efficient

Cited in over 20,000 patent documents

Read the full case study here