



Australian Government

Australian Research Council

2015 Australian Laureate Fellow



Professor Philip Hugenholtz

(FL150100038)

Current Organisation
Administering Organisation
Primary research field
Strategic Research Priority area

The University of Queensland
The University of Queensland
Microbial Ecology
Living in a changing environment

*Image credit: The
University of Queensland*

Fellowship project summary:

Reconstructing the universal tree and network of life

This fellowship project aims to obtain 100 000 genome sequences and systematically organise these into natural phylogenetic relationships comprising both vertical inheritance and lateral transfers. One of the challenges in biology today is to reconstruct the complete evolutionary history of life on Earth. A major hurdle to this goal is our inability to culture most microbial species which comprise the bulk of evolutionary diversity. The framework developed in this project seeks to replace the current incomplete classification of microorganisms to provide fundamental insights into ecology and evolution. It is hoped that the outcomes of the project can be applied to manage risk and capture opportunities in important Australian industries including agriculture, mining and biotechnology.

About Professor Hugenholtz

Professor Hugenholtz's research interests include microbial diversity and microbial ecology and evolution. His research interests include the microbial ecology and evolution of host-associated ecosystems such as the termite hindgut and human microbiome, and genomic mapping of the microbial tree of life.

Professor Hugenholtz completed his PhD in 1994 at The University of Queensland, and then continued his career in microbiology and genomics in the US at UC Berkeley and the DOE Joint Genome Institute. In 2010 he returned to Australia to establish the Australian Centre for Ecogenomics as Director of the Centre, where he has helped pioneer the use of culture-independent molecular methods to characterise microbial communities including marker gene and shotgun (metagenomic) approaches.

Professor Hugenholtz has received several ARC grants, including a Discovery Outstanding Research Award and Discovery and Linkage Projects grants.

In 2006, Professor Hugenholtz received the Young Investigators Award from the International Society of Microbial Ecology (ISME) and in 2012 was elected as a Fellow of the American Academy of Microbiology (AAM). Professor Hugenholtz has published over one hundred and fifty papers in molecular microbial ecology including several *Science* and *Nature* papers.

Find out more about Professor Hugenholtz and his research by [visiting his profile page on The University of Queensland website](#).

For further information about this funding scheme please visit the [Australian Laureate Fellowships scheme page on the ARC website](#).