

Plan Overview

A Data Management Plan created using DMPTool

Title: Analysis of biodiversity in activated sludge from a petrochemical plant

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Template: Digital Curation Centre

Project abstract:

Activated sludge is a general term for the microbial community, the organic and inorganic substances on which they are attached. It is used in wastewater treatment to degrade organic compound in sewerage. The microbial diversity can be different with the variation of environment condition and wastewater composition.

Start date: 10-01-2015

End date: 08-01-2016

Last modified: 10-26-2022

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Analysis of biodiversity in activated sludge from a petrochemical plant

Data Collection

What data will you collect or create?

Several parameters of activated sludge was assayed by certified laboratory according to the American Public Health Association: total organic carbon (TOC), chemical oxygen demand (COD), dissolved oxygen (DO), total suspended solids (TSS), solids suspended (SS), solids dissolved (SD); and total Kjeldahl nitrogen (TKN).

DNA and 16S rRNA are also collected. The generated amplicon sequence variants (ASVs) was appointed according to the SILVA database.

How will the data be collected or created?

The activated sludge sample was collected in a wastewater treatment plant from Brazil. We collect the activated sample 4 times in 1 year, and the samples we named for: Autumn 2015 (C1), Winter 2015 (C2), Spring 2015 (C3), and Summer 2016 (C4). We collect 1 L every time and put it into a bucket and transit it to laboratory using ice. After that, samples will be kept at -80°C until further analysis.

Documentation and Metadata

What documentation and metadata will accompany the data?

Parameters of 4 samples (mentioned in advance), DNA and RNA sequencing results and analyze. They are tables and graphs. They should be kept as MS office formats.

Ethics and Legal Compliance

How will you manage any ethical issues?

The data of this research is mainly about some parameters, DNA and RNA sequencing of microbe in activated sludge, so it doesn't involve the ethical issues. And there also don't have sensitive data. We will hide the identity of participants if it's necessary.

How will you manage copyright and Intellectual Property Rights (IP/IPR) issues?

The data should be owned to project group, and it should open to everyone. But if someone else use the data in their thesis and article, they should indicate source.

Storage and Backup

How will the data be stored and backed up during the research?

Data storage and back up were not mentioned in the paper. I think the data are not too much, but classification should be detail, like parameters, DNA sequencing results and microbial classification should in different file. They need to be backed up in different computer (at least 3) incase that the event of an incifent.

How will you manage access and security?

Data should be full protected before the paper published. If data security can't be ensured, it may cause plagiarism. To avoid this situation, a safety code is needed for computer and data files, only the participants know the code.

Selection and Preservation

Which data are of long-term value and should be retained, shared, and/or preserved?

The paper didn't mentioned how they will deal with the data. I think some key data must be retained like relative abundance of microbial classification graph in phylum that shows the biodiversity and chemical parameters. The data may be used in protection of activated sludge and bacteria screening for wastewater treatment.

What is the long-term preservation plan for the dataset?

Question not answered.

Data Sharing

How will you share the data?

The paper was released on Google Scholar, PubMed and other academic website. Potential users can find our data in the article if they are searching for microbial diversity in activated sludge. They can also look up the relevant sequencing in National Center for Biotechnology Information. The data is

available after the article released.

Are any restrictions on data sharing required?

There's no restriction in data sharing, anyone can find it directly.

Responsibilities and Resources

Who will be responsible for data management?

All the project participants will be responsible for data management. Themis will be responsible for each data management activity. Leticia will be responsible for each data management activity.

What resources will you require to deliver your plan?

They didn't mentioned if there is any additional specialist expertise, hardware or software required.
