PPP Draft

Title: Fitting of prey-predator ODE-model to real world data

# Introduction

### Motivation

* Research internship in ecolgy
* Oxic-anoxic regime shifts in microbial communities
* ODE system

### Value in science or to society

* Science:
  + Simplifying reality with a model help to understand interactions
  + Well implemented model predicts ecosystem behaviour
* Society:
  + Eutropicfication: work against dense of plants
  + Hunting

### Dataset

* Potential for log term persistence predator cycles
* Freshwater organisms:
  + Prey: unicellular green algae
  + Predator: planktonic rotifers
* Stable environmental conditions
* + short generation time: many cycles in little time
* Big minus later on

# Methods

## Model: Lotka Volterra

### Nelder Mead

Chart

Description automatically generated

### OLS

Chart

Description automatically generated

* Minimize residuals (red)

# Results and discussion

# Outlook