

# MASTER'S -/ DIPLOMA THESIS

## Production of next generation liquid biofuels

The food-or-fuel discussion triggered the development of alternative strategies for biofuel production. In the KASAV project the Institute of Environmental Biotechnology focusses on the production of next generation liquid biofuels from various waste streams and investigates directed Aceton-Butanol-Ethanol (ABE) fermentation under the influence of various metabolites.

### The framework of this thesis includes:

- Evaluate the influence of acetate, lactate, butyrate in the substrate on ABE yields and product ratios
- Kinetic studies on product formation of saccharolytic and proteolytic *Clostridia spp.* for ABE production.
- Increased butanol production under elevated hydrogen partial pressure
- Enhanced product formation by establishing a continuous process with cell recycling/cell immobilization

**Aim of the work** is to produce biobutanol from synthetic substrates using specialized organisms. It shall be investigated how ABE fermentation can be directed to yield the desired products.

### Basic Information

<b>Start date</b>	September/October 2015
<b>Duration</b>	approx. 6 months financial support will be provided
<b>Skills</b>	background in microbiology / biotechnology / environmental science is desired; ability to work independently is essential
<b>Location</b>	Tulln/Donau
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