REPUBLIC OF SLOVENIA
MINISTRY OF EDUCATION,
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University of Ljubljana
Faculty of Chemistry and Chemical Technology

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*VABILO NA PREDAVANJE*
*V OKVIRU DOKTORSKEGA ŠTUDIJA*
*KEMIJSKE ZNANOSTI*

# Dr. Thorsten Heidorn

*Bioforsk, Norwegian Institute for Agricultural and Environmental Research, Ås*

z naslovom:

## Production of biofuels with microalgae utilising a Synthetic Biology approach

**v sredo, 15. aprila 2015 ob 15:00 uri**
v predavalnici 1 v 1. nadstropju Fakultete
za kemijo in kemijsko tehnologijo, Večna pot 113

*Vljudno vabljeni!*

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***Abstract***

On our planet, sustainable primary energy resources are mainly based on the sun (directly: sun light, indirectly: wind and water power) and, at few places, geothermal power (heat). With today´s technology these primary energy sources are exclusively converted into electricity, which can easily be used in stationary (industry, household) or short distance (urban) transport applications. However, for long distance transport (trucks, ships, planes) electricity storage solutions are still inferior to chemical energy carriers (fuels) because of low specific energies and energy densities. In nature, photosynthetic organisms can convert sun light into chemical storage molecules like starch, glycogen, or lipids. Because of their size and physiology microalgae (green algae and cyanobacteria) are more efficient in biofuel production than higher plants. However, by nature no organism is optimized to efficiently produce biofuels in those amounts our society is consuming. Synthetic biology is a modern, genetic engineering based approach that could be used to design and further develop efficient biofuel producing microalgae.
In the talk, I will introduce into the subject, give basic information about microalgae and synthetic biology, and will finally show examples of already available solutions and future outlook. Welcome!