20th International Project Week 2018  
23rd – 27th April 2018

Lecturer: Jan Berger  
University/Company: bionikum:austria  
Country: Austria

Biomimicry in Engineering

Content:  
Finding innovation by using abstractions of natural systems to solve specific problems in technology. The students will learn techniques for structuring to describe natural phenomenon and technological problems. In addition, the principles of bottom-up and top-down approaches will be discussed, implemented and used. The final goal is to present a self-chosen biomimicry topic by using the learnt techniques. A presentation usually consists of self-drawn sketches, experiments and/or models.

Methods:  
- Workshop  
- Group work  
- Extended discussions on the green campus  
- Lectures  
- Practical problem solving during a lecture using specific examples and tasks (drawing session, forest O2 calculation using a single tree, ...)

Competences and skills to be acquired:  
- abstraction of complex systems  
- interdisciplinary working (usually arts/design, mechanics, biology, chemistry/material science, micro- and nanostructures)  
- connection of static technology with versatile growing systems  
- innovation management  
- evolutionary systems development  
- sustainable energy technologies  
- (...always depending on the self-choosen topics)

Prerequisites:  
Students should have basic knowledge about physics and math. Creative students of other courses besides engineering are possible.

Language of instruction: English  
Recommended for: Engineering