

ChE 413

Chemical Product Design Project

Project Coaches

Prof. Kumar Varoon Agrawal

Prof. Kevin Sivula

Prof. Wendy Queen

Dr. Marina Micari

Prof. Jeremy Luterbacher

Detailed information about the project is on
the guideline posted on moodle

Basic description of course project

- In groups of 4 and directed by a faculty project coach.
- Three in person (or zoom) meetings during the project development process.
- Final report and final oral presentation.

Project schedule:

- **Oct 7**: Project/groups questionnaire deadline (students)
- **Oct 14** : Project/group assignment deadline (Prof. Agrawal)
- **Oct 28*** : Meeting 1 with project coach (**needs & specifications**)
- **Nov 11*** : Meeting 2 with project coach (**ideas and initial selection**)
- **Nov 25*** : Meeting 3 with project coach (**top idea and key design aspects**)
- **Dec 9** : Final Report due on Moodle by the end of the day
- **Dec 16** : Final oral presentation

*Meeting schedules (day/time) are flexible according to Manager/Core Team agreement. Refer to the project guide on the moodle for more details.

The projects for 2025

Project A: A product that facilitates breathing for high-altitude mountaineering.

Project coach: Prof. Kumar Varoon Agrawal



Project B - Cooling vest for outdoor workers or athletes

Project coach: Prof. Kevin Sivula



Project C - A product that solves the problem of quagga mussels in Lake Geneva.

Project coach: Prof. Kumar Varoon Agrawal



The projects for 2025

Project D - A product that reduces the waste of fruits and vegetables in supermarkets

Project coach: Prof. Kumar Varoon Agrawal



Project E - A refrigeration system for a tropical village using natural hydrothermal steam

Project coach: Prof. Jeremy Luterbacher



Project F - Production of sparkling water at home using local resources

Project coach: Dr. Marina Micari



The projects for 2025

Project G - A product that reduces the CO₂ levels in poorly ventilated spaces?

Project coach: Prof. Wendy Queen



Project H - Single-use inflatable bioreactor that maximizes O₂ transfer and CO₂ removal

Project coach: Prof. Kumar Varoon Agrawal



Choosing projects/groups

Using the google form link, each student can inscribe for a project. There are 4 spots for each group and two separate groups will work on most projects. After all students are placed in a group, I will send a confirmation email with a more detailed project description.

Your Name *

Short-answer text

Your SCIPER *

Short-answer text

Project first choice *

- Project A: Product that facilitates breathing for high-altitude mountaineering.
- Project B: Cooling vest for outdoor workers or athletes
- Project C: Product that solves the problem of quagga mussels in Lake Geneva.
- Project D: Product that reduces the waste of fruits and vegetables in supermarkets
- Project E: Refrigeration system for a tropical village using natural hydrothermal steam
- Project F: Production of sparkling water at home using local resources
- Project G: Product that reduces the CO2 levels in poorly ventilated spaces?
- Project H: Single-use inflatable bioreactor that maximizes O2 transfer and CO2 remo...

Project second choice *

- Project A: Product that facilitates breathing for high-altitude mountaineering.
- Project B: Cooling vest for outdoor workers or athletes
- Project C: Product that solves the problem of quagga mussels in Lake Geneva.
- Project D: Product that reduces the waste of fruits and vegetables in supermarkets
- Project E: Refrigeration system for a tropical village using natural hydrothermal steam
- Project F: Production of sparkling water at home using local resources
- Project G: Product that reduces the CO2 levels in poorly ventilated spaces?
- Project H: Single-use inflatable bioreactor that maximizes O2 transfer and CO2 remo...

Project third choice *

- Project A: Product that facilitates breathing for high-altitude mountaineering.
- Project B: Cooling vest for outdoor workers or athletes
- Project C: Product that solves the problem of quagga mussels in Lake Geneva.
- Project D: Product that reduces the waste of fruits and vegetables in supermarkets
- Project E: Refrigeration system for a tropical village using natural hydrothermal steam
- Project F: Production of sparkling water at home using local resources
- Project G: Product that reduces the CO2 levels in poorly ventilated spaces?
- Project H: Single-use inflatable bioreactor that maximizes O2 transfer and CO2 remo...

List up to 3 preferred team members (including their SCIPER)

Short-answer text