



Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

D-MAVT
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Zurich, November 2023

STUDENT RESEARCH ASSISTANT

Start: Immediately or by agreement
Supervisor: Dr. Paolo Gabrielli gapaolo@ethz.ch
Project: Optimal design of a net-zero chemical industry in a world of limited resources

BACKGROUND

Chemical products, such as fertilizers and plastics, are ubiquitous across all sectors of our society, with around 96% of all manufactured goods being touched by chemistry ¹. Today, the production of chemical products is responsible for about 5% of global CO₂ emissions. Multiple technology routes are currently available for producing chemicals with net-zero CO₂ emissions based on biomass, recycling, and carbon capture, utilization, and storage ². However, the extent to which these routes are viable with respect to the local availability of energy and natural resources remains unclear.

PROJECT DESCRIPTION

Within the framework of technology assessment for a net-zero chemical industry, we are looking for a student assistant to support our research activities, especially in the direction of results visualization and design.

The selected students will be employed for up to 15 hours per week. More information about ETH employment on an hourly wage can be found [here](#).

CONTACT

To express your interest in the position, send your CV and transcripts to gapaolo@ethz.ch.

REFERENCES

1. Gabrielli, P., Rosa, L., Gazzani, M., Meys, R., Bardow, A., Mazzotti, M. & Sansavini, G. Net-zero emissions chemical industry in a world of limited resources. *One Earth* **6**, 682–704 (2023).
2. Gabrielli, P., Gazzani, M. & Mazzotti, M. The Role of Carbon Capture and Utilization, Carbon Capture and Storage, and Biomass to Enable a Net-Zero-CO₂ Emissions Chemical Industry. *Ind. Eng. Chem. Res.* **59**, 7033–7045 (2020).