

# Save the Date

**What:** 2<sup>nd</sup> Summer School of Linde Engineering in cooperation with the Munich Institute of Integrated Materials, Energy and Process Engineering at TUM and Hochschule München

**When:** July 17 - 21, 2023 | 8:30 am to 5:00 pm

**Where:** Linde Engineering  
in Pullach, near Munich

# Important Dates

**Application deadline:** Mar 15, 2023

**Notification date:** Apr 30, 2023

The participation is free of charge for PhD students and doctoral candidates. We are looking forward to receiving your application including your statement of purpose, degree certificate and a letter of recommendation.

**Please send your application to:** [renate.boerckel@linde.com](mailto:renate.boerckel@linde.com)



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Lothstr. 34  
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# Summer School Enabling the Transition to a New Energy System

**When:** July 17 - 21, 2023



**Where:** Linde Engineering  
in Pullach, near Munich

2<sup>nd</sup> Summer School of Linde Engineering in cooperation with the Munich Institute of Integrated Materials, Energy and Process Engineering at TUM and Hochschule München supported by the Carl-von-Linde Stiftung.



Linde Hydrogen Liquefaction Plant, Leuna, Germany

## About

With climate change becoming an increasing challenge, use of alternative sources of energy and adjustments in industrial processes are gaining substantial relevance. Approaches to limit and reduce CO<sub>2</sub> emissions as well as to utilize CO<sub>2</sub> as feedstock have hence shifted into our focus. The energy sector and industry globally intensify their strive for innovative approaches for sustainable and environmentally friendly energy generation and industrial processes. This includes concepts to replace conventional fossil fuels by energy carriers with lower or no CO<sub>2</sub> footprint such as green hydrogen and its derivatives. Carbon capture processes are developed to decrease CO<sub>2</sub> emissions through sequestration or use as feedstock. Furthermore, innovative and integrated concepts for energy production, distribution, and use as well as smart operation of industrial plants will be an important contributor to successfully address climate change.

The upcoming Summer School 2023 presents approaches and methods how to realize the transition to a new energy system.



Munich Institute of Integrated Materials, Energy and Process Engineering (MEP) in Garching, Germany

## Methods

- Topic-oriented lectures
- Discussions
- Excursions to Linde Gas, Linde Engineering and TUM facilities
- Evening & close out event

## Requirements

Experts from academia as well as experts from Linde will provide detailed insights into technologies and approaches to enable the energy transition.

If you are intrigued by technical thermodynamics, cryogenic technologies, and sustainable energy solutions, we highly encourage you to apply. Successful participation implies permanent and active attendance.

Certificates will be handed over at Linde Engineering on the last day.



Linde Flexible Air Separation Plant (FlexASU®) in Vejle, Denmark

## Topics

### Introduction

- Industrial gas processing
- Sustainability challenges

### Future energy carriers

- Alternative energy carriers
- Hydrogen based energy carriers
- Hydrogen & carbon based synthetic energy carriers
- Biogas

### Automation and flexibility

- Demand side management
- Automation and flexibility approaches
- Flexibilization of Air Separation Units
- Flexible Hydrogen Electrolysers

### New modelling approach in the process industry

- Artificial intelligence and advanced process control
- Modelling the energy transition – combining detailed and holistic views

### The process industry in a sustainable future

- Coping with energy intermittency
- A courageous look into the future – next steps of the energy transition

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