



CHALMERS
UNIVERSITY OF TECHNOLOGY



Solvina

Course duration
5 days

NEW!

FOR INDUSTRY
PROFESSIONALS AND
PH.D. STUDENTS

Power System Stability

Chalmers University,
Gothenburg.

22nd – 26th August 2022

UNIQUE OPPORTUNITY

MIX THEORY AND PRACTICE

**SIGN UP
TODAY!**

This course will provide a unique opportunity for engineers in the power industry to undertake a comprehensive and in-depth study of important areas of power system. The aim is to bridge the gap between theoretical and practical concepts by combining theoretical lectures with lab experiments.

The Course

The course is a mix of theoretical lectures coupled with laboratory demonstrations. The course covers following major areas,

- **Power System and Control Theory (basics):** Swing equation and power transfer equations, modeling of grid and synchronous machines, Laplace transforms and block diagrams, PID control and tuning, analysis in frequency domain and stability criteria.
- **Stability issues:** Theory on types of stability – Transient, Voltage and Small Signal. *Lab demonstrations of Voltage and Transient stability with different grid conditions.*
- **Active power and frequency control:** Theory on frequency stability, droop control, different prime movers and governors and overall power plant process impact. *Lab demonstrations of frequency stability, governor testing and tuning, impact of droop and different prime movers.*
- **Testing and tuning of AVR:** Theory of voltage control on synchronous machines, different excitation systems and their properties, AVR test methods. *Lab demonstrations of control response of AVR, AVR testing and tuning practices and impact of types of exciters.*
- **Testing and tuning of PSS:** Theory of electromechanical oscillations and damping, PSS (Power System Stabilizer) principles, different types of PSS, PSS tuning and testing. *Lab demonstrations of Small Signal Stability, PSS testing and tuning.*

The lectures are scheduled **8:30–16:30** for all five days. The first day starts with registration between **8:00–8:30**.

Audience

The course is directed towards grid operators, network & system planners from the transmission industry, as well as engineers and management in power generation industries. Participants attending the course will enhance their understanding of theory and practice of system stability & control, and mitigation of system oscillations after contingencies. The course will provide the participants a good understanding of the fundamentals of the topic.

A holistic approach
– lasting solutions



Power



Analysis



Design



Measurement



Management

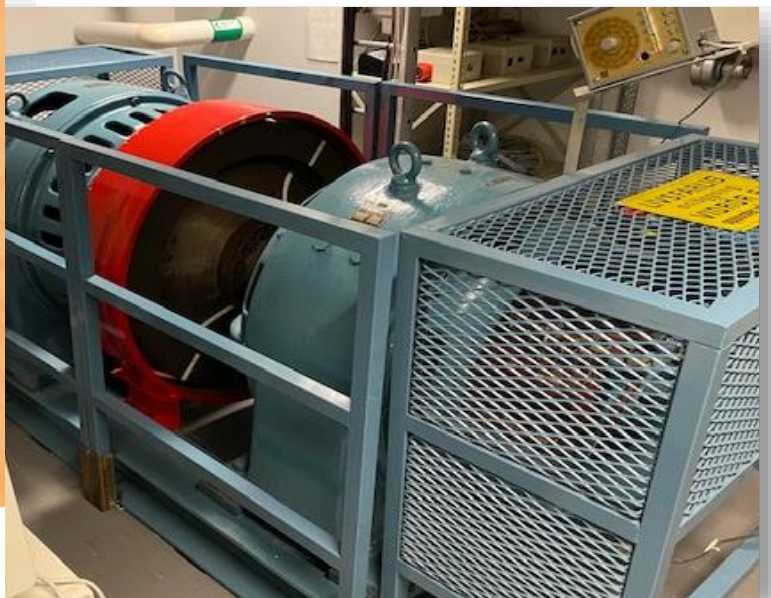


Process

**“More than 20 years of
experience in the field
of Power System
testing and tuning”**

Solvina has more than 20 years of experience working with power generating utilities, industrial facilities, wind power, and other power system segments from commissioning small control circuits to complete control strategy redesign to make substantive improvements in existing systems & processes, and provides support for the planning, construction and operation of new installations.

Combining vast experience in the field of Power Systems with practical illustrations, Solvina in co-operation with **Chalmers University** offer this course on ‘Power System Stability’. The course covers theoretical lectures coupled with laboratory demonstrations in the premises of Chalmers University giving the participant a unique opportunity to gain real understanding and knowledge about Power System Stability.



WHAT IS INCLUDED

The course fee includes course material for all participants. Lunch and light snacks during morning and afternoon breaks for on-site participants. All on-site participants are invited to a welcome dinner held after the first day of the course.

Last day to register:

15th July

REGISTRATION is done via our website,
<https://www.solvina.com/courses-power-engineering/>.

Registration can also be made directly to course administrator: Jaidev Oza at education@solvina.com, +46 031-709-63-13. The number of participants is limited, **SIGN UP TODAY TO SECURE YOUR PLACE!**

THE COURSE FEE (excluding VAT) for,

- **ONLINE** participation (via MS Teams) is 25,000 SEK
- **ON-SITE** participation (at Chalmers) is 30,000 SEK
- **PH.D. STUDENTS** participation via On-site/Online medium is 16,000 SEK (only two seats)

LANGUAGE the course language will be English.

THE COURSE LOCATION is Chalmers University of technology in central Gothenburg: Chalmersplatsen 4, 412 96 Gothenburg, www.chalmers.se.

Other information and conditions

CONFIRMATION within one week of registration, a confirmation will be sent to the email address you have entered. The number of participants is limited and if the course is full, you will be queued.

PAYMENT The course is invoiced and shall be paid before start of the course.

CANCELLATION TERMS If you cannot participate, you are allowed to transfer the registration to another person at the same company free of charge. Registration is binding. Solvina reserves the right to cancel the course until 2 weeks before the start. All the notified will be informed and Solvina shall not be held responsible for any damage.

ACCOMMODATION is not included in the course fee. Solvina will be happy to help with your hotel booking if desired.

FORCE MAJEURE Solvina AB is not obliged for damages caused by Swedish or foreign law, Swedish or foreign authority, war, strike, blocking or similar circumstances, and shall not be held responsible for damages if all or part of the course time is not carried out due to illness.

