



Swedish  
Electricity Storage  
and Balancing Centre

# 3<sup>rd</sup> Summer School

19–21 August 2026 @ Chalmers University of Technology

**Focus on AI, modelling, machine learning,  
safety and security, and big data analysis**

## **19 August      Basic concepts and general applications**

|             |                                                                                                                       |
|-------------|-----------------------------------------------------------------------------------------------------------------------|
| 12:00–13:30 | Lunch & Registration                                                                                                  |
| 13:30–15:45 | Lecture & Exercise with Srinivasan Keshav (Cambridge University)<br>Introduction to Machine Learning                  |
| 15:15–15:45 | Coffee break                                                                                                          |
| 15:45–17:30 | Lecture & Exercise with Marina Papatriantafilou (Chalmers)<br>Algorithmic aspects of data analysis in grid monitoring |
| 19:00–      | Dinner                                                                                                                |



SESBC Summer School (Day 1)

Version 26.08.13

## 20 August - PARALLEL TRACKS

| MATERIALS AND DEVICES                                                                                                           | SYSTEM AND INTELLIGENT ENERGY MANAGEMENT                                                                                                                      |
|---------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Lecture 09:00–09:50</b><br>Amber Mace (Uppsala University)<br>Multiscale modeling of batteries – from materials to devices   | <b>Lecture 09:00–09:50</b><br>Andreas Theocharis (Karlstad University)                                                                                        |
| Short break 09:50–10:00                                                                                                         |                                                                                                                                                               |
| <b>Lecture 10:00–10:50</b><br>Isak Bengtsson (Chalmers)<br>An introduction to machine learning for materials                    | <b>Exercise 10:00–10:50</b><br>Andreas Theocharis                                                                                                             |
| Coffee 10:50–11:10                                                                                                              |                                                                                                                                                               |
| <b>Lecture 11:10–12:00</b><br>Anders Hellman (Chalmers)<br>AI-Guided Discovery of Materials for Sustainable Energy Technologies | <b>Lecture 11:10–12:00</b><br>Romaric Duvignau (Chalmers)                                                                                                     |
| <b>Lunch 12:00–13:20</b><br><b>Group photo 13:20–13:30</b>                                                                      |                                                                                                                                                               |
| <b>Exercise 13:30–14:20</b><br>Amber Mace, Isak Bengtsson, and Anders Hellman                                                   | <b>Exercise 13:30–14:20</b><br>Romaric Duvignau                                                                                                               |
| Short break 14:20–14:30                                                                                                         |                                                                                                                                                               |
| <b>Exercise continues 14:30–15:20</b><br>Amber Mace, Isak Bengtsson, and Anders Hellman                                         | <b>Lecture 11:10–12:00</b><br>Engla Rencelj Ling & Filip Natvig (Uppsala University)<br>Substation Cybersecurity and Machine Learning based Anomaly Detection |
| Coffee 15:20–15:50                                                                                                              |                                                                                                                                                               |
| <b>Exercise continues 15:50–16:40</b><br>Amber Mace, Isak Bengtsson, and Anders Hellman                                         | <b>Exercise 15:50–16:40</b><br>Engla Rencelj Ling & Filip Natvig                                                                                              |
| <b>Popular science presentation 17:00</b><br>by PhD student Benedick Allan Strugnell-Lees                                       |                                                                                                                                                               |
| 18:00–19:30 Dinner                                                                                                              |                                                                                                                                                               |



## **21 August - INDUSTRIAL PERSPECTIVES**

|             |                                                                                    |
|-------------|------------------------------------------------------------------------------------|
| 08:30–09:20 | ABB                                                                                |
| 09:20–10:05 | Göteborg energi – Joris van Rooij                                                  |
| 10:15–10:40 | Coffee break                                                                       |
| 10:40–11:30 | Volvo – Jacob Norgren                                                              |
| 11:35–12:25 | Svenska kraftnät – Josefine Mattsson<br>Forecasting in the national control centre |
| 12:30–13:30 | Lunch                                                                              |
| 13:30–15:30 | Study visit to Digital Twin Cities Centre                                          |

