



8 – 12th December 2025, KTH, Stockholm

Neutrons for Sustainable Energy [5 ECTS]

Monday 8 December

"Intro & Electrochemistry"		
12:00 – 13:30	Arrival + Hang Posters	
13:00 – 13:30	L01: Welcome / Course Info	Martin Månsson KTH
13:30 – 14:15	L02: Keynote: the sustainability/energy problem	Martin Månsson KTH
14:15 – 15:00	L03: Electrochemistry 101.1: <i>Basic Theory</i>	Eneli Monerjan HZB
15:00 – 15:30	FIKA + Posters	
15:30 – 16:15	L04: Electrochemistry 101.2: <i>Electrochemical Devices: functionality & challenges</i>	Eneli Monerjan HZB
16:15 – 17:00	L05: Electrochemistry 101.3: <i>In-house c.f. Large-scale Techniques</i>	Eneli Monerjan HZB

Tuesday 9 December

"Energy Storage"		
07:00 – 08:30	BREAKFAST (not organized, in your hotel/at home 😊)	
08:30 – 09:15	L06: General Intro to Neutron Scattering (reminder) + for Energy Specifically	Martin Månsson KTH
09:15 – 10:00	L07: Batteries 1: <i>General intro, status and challenges</i>	Takashi Kamiyama CSNS
10:00 – 10:30	FIKA + Posters	
10:30 – 11:15	L08: Batteries 2: <i>Challenges and how can neutrons help?</i>	Takashi Kamiyama CSNS
11:15 – 12:00	L09: Batteries 3: <i>Scientific Examples, including in-operando techniques</i>	Takashi Kamiyama CSNS
12:00 – 13:30	LUNCH + Posters	
13:30 – 14:15	L10: Supercapacitors	Rasmus Palm University of Tartu
14:15 – 15:00	L11: Hydrogen Storage 1: <i>General intro, status and challenges</i>	Rasmus Palm University of Tartu
15:00 – 15:30	FIKA + Posters	
15:30 – 16:15	L12: Hydrogen Storage 2: <i>Challenges and how can neutrons help?</i>	Rasmus Palm University of Tartu
16:15 – 17:00	L13: Hydrogen Storage 3: <i>Scientific Examples</i>	Rasmus Palm University of Tartu



Wednesday 10 December

“Energy Harvest and CO ₂ Reduction”	
07:00 – 08:30	BREAKFAST (not organized, in your hotel/at home 😊)
08:30 – 09:15	L14: Sustainable Flexible Electronics/Devices 1: <i>General intro, status and challenges</i> Stephan Roth KTH / DESY
09:15 – 10:00	L15: Sustainable Flexible Electronics/Devices 2: <i>How can neutrons help + Scientific Examples</i> Stephan Roth KTH / DESY
FIKA + Posters	
10:00 – 10:30	
10:30 – 11:15	L16: Photovoltaics 1: <i>General intro, status and challenges</i> Xinhui Lu The Chinese University of Hong Kong
11:15 – 12:00	L17: Photovoltaics 2: <i>How can neutrons/x-rays help, scientific examples</i> Xinhui Lu The Chinese University of Hong Kong
LUNCH + Posters	
12:00 – 13:30	
13:30 – 14:15	L18: Thermoelectrics 1: <i>General intro, status and challenges</i> Jie Ma Shanghai Jiao Tong University
14:15 – 15:00	L19: Thermoelectrics 2: <i>How can neutrons help + Scientific Examples</i> Jie Ma Shanghai Jiao Tong University
FIKA + Posters	
15:00 – 15:30	
15:30 – 16:15	L20: Magnetocalorics 1: <i>General intro, status and challenges</i> Johan Cedervall Uppsala University
16:15 – 17:00	L21: Magnetocalorics 2: <i>How can neutrons help + Scientific Examples</i> Johan Cedervall Uppsala University
17:00 – 19:00	Posters + Beer
19:30	SCHOOL DINNER Restaurang Cypern, Valhallavägen 50, 114 27 Stockholm https://restaurangcypern.se/ https://maps.app.goo.gl/7ocPB6pmwvX6iMxd8

Thursday 11 December

“Experimental Techniques & Sources”	
07:00 – 08:30	BREAKFAST (not organized, in your hotel/at home 😊)
08:30 – 09:15	L22: Polarized Neutron Scattering 101 Gøran Nilsen ISIS
09:15 – 10:00	L23: Polarized Neutron Scattering for Energy Materials Gøran Nilsen ISIS
FIKA + Posters	
10:00 – 10:30	
10:30 – 11:15	L24: Neutron Imaging/Tomography for Energy Storage Luise Theil Kuhn DTU
11:15 – 12:00	L25: Neutron Imaging/Tomography for Energy Conversion Luise Theil Kuhn DTU
LUNCH + Posters	
12:00 – 13:30	
13:30 – 14:15	L26: ESS - Future Possibilities for Sustainable Energy Mikhail Feygenson ESS
14:15 – 15:00	L27: CSNS: Possibilities for Sustainable Energy Ping Miao CSNS
FIKA + Posters	
15:00 – 15:30	
15:30 – 16:15	L28: Muon Spin Rotation 101 Martin Månsson KTH
16:15 – 17:00	L29: Muons for Energy Materials Martin Månsson KTH



Friday 12 December

“Computational Techniques”		
07:00 – 08:30	BREAKFAST (not organized, in your hotel/at home 😊)	
08:30 – 09:15	L30: Modelling Tools for Sustainable Energy I <ul style="list-style-type: none"> The potential energy surface, and methods for calculating E(r) 	Benjamin J. Morgan <i>University of Bath</i>
09:15 – 10:00	L31: Modelling Tools for Sustainable Energy II <ul style="list-style-type: none"> Structure and dynamics 	Benjamin J. Morgan <i>University of Bath</i>
10:00 – 10:30	FIKA + Posters	
10:30 – 11:15	L32: Modelling Tools for Sustainable Energy III <ul style="list-style-type: none"> Configurational disorder 	Benjamin J. Morgan <i>University of Bath</i>
11:15 – 12:00	L33: AI tools for a Sustainable Future I	Farzin Golzar <i>KTH</i>
12:00 – 13:30	LUNCH + Posters	
13:30 – 14:15	L34: Sustainable Energy in the Automotive Industry	Matthew J. Lacey <i>Scania</i>
14:15 – 14:45	L35: Preparations for examination	Martin Månsson <i>KTH</i>
14:45 –	DEPARTURE	

Examination:

In the form of poster presentations + writing a project report: “How Neutrons will Save the World” (2-3 pages, P/F) + short home exam. This equals to > 3 weeks of full-time studies (1.5 ECTS/week) = 5 ECTS in total.

Venue:

KTH Royal Institute of Technology
 Campus Albano
 Stockholm
 Sweden

Lecture Room:

Hannes Alfvéns Väg 12, 114 19 Stockholm
<https://maps.app.goo.gl/L1sjNHhX1YhP4N7T9>
 Level 5 (in the big kitchen area)