

Electron Microscopy Analysis of Fibre- and Polymer-based Materials
FCK3109, 3 credits, VT 2021 KTH

W.	Time	Activity	Content	Teacher		
37	Monday 13/09/2021 "SEM and Sample Prep" https://kth-se.zoom.us/j/69573534547					
	10:15 – 11:00	Lecture	Introduction to the course https://kth-se.zoom.us/j/63184632538 (only for registered PhD students)	AH		
	11:15 – 12:00		SEM basics	AR		
	13:15 – 14:00					
	14:15 – 15:00				SEM Sample preparation	AH
	15:15 – 16:00				Cross-sectional sample preparation for SEM: mechanical polishing and BIB	AR
	16:15 – 17:00				SEM-based microanalysis: EDS & WDS	
	Tuesday 14/09/2021 "TEM" https://kth-se.zoom.us/j/65884756673					
	09:15 – 10:00	Lecture	TEM – the instrument and electron-matter interaction	TT		
	10:15 – 11:00		Imaging and diffraction in TEM			
	11:15 – 12:00		STEM and other techniques in the TEM			
	13:15 – 14:00		TEM-based spectroscopy: EDS & EELS	TW		
	14:15 – 15:00		TEM in Wood-related research			
	15:15 – 16:00		Cryo-TEM Introduction		CM	
	Wednesday 15/09/2021 "Ultramicrotomy, Cryo-SEM and Dual Beam" https://kth-se.zoom.us/j/67800951352					
	09:15 – 10:00	Lecture	Ultramicrotomy	AZ, SP		
	10:15 – 11:00					
	11:15 – 12:00		Cryo-SEM	NL		
	13:15 – 14:00					
	14:15 – 15:00				Dual Beam. Intro. TEM Sample preparation and 3D reconstruction	AR
	15:15 – 15:45					
15:45 – 16:00	Dual Beam 3D reconstruction of ethyl cellulose	CF				
Thursday 16/09/2021 "State-of-the-art EM" https://kth-se.zoom.us/j/62715677396						
09:15 – 10:00	Lecture	Cryo-TEM tomography	LS			
10:15 – 11:00		Cryo-TEM image processing	CM			
11:15 – 12:00		Environmental TEM vs cryo-TEM	RW			
13:15 – 14:00		SEM and FIB-SEM for liquid experiments and 3D imaging	EO			
14:15 – 15:00		TEM: in situ advanced imaging and spectroscopy				
15:15 – 16:00		Summary of the course and instructions for the preparation of proposals	AR, AH			
39	Tuesday 28/09/2021 "Presentations" https://kth-se.zoom.us/j/69402971912					
	08:30 – 12:00	Oral exam	Oral presentations of proposals by students	AR, AH		
	13:00 – 17:30					

AH: Anna Hanner (KTH), **AR:** Anastasia Riazanova (KTH), **TW:** Tom Willhammar (SU),
TT: Thomas Thersleff (SU), **CM:** Carsten Mim (KTH), **CF:** Cecilia Fager (KTH),
NL: Nikki Lee (UCEM), **LS:** Linda Sandblad (UCEM), **AZ:** Agnieszka Ziolkowska (UCEM),
SP: Sofia Pettersson (Rowaco), **RW:** Reine Wallenberg (LU), **EO:** Eva Olsson (Chalmers)