

**Electron Microscopy Analysis of Fibre- and Polymer-based Materials**  
**FCK3109, 7.5 credits, VT 2021 KTH**

W.	Time	Activity	Content	Teacher		
10	<b>Monday 01/03/2021 "SEM"</b> <a href="https://kth-se.zoom.us/j/62395167385">https://kth-se.zoom.us/j/62395167385</a>					
	09:15 – 10:00	Lecture	Introduction to the course	<b>AH</b>		
	10:15 – 11:00		SEM basics	<b>AR</b>		
	11:15 – 12:00		SEM-based microanalysis: EDS & WDS	<b>MH</b>		
	13:15 – 14:00		Cryo-SEM		<b>NL, SP</b>	
	14:15 – 15:00					
	15:15 – 16:00					
	<b>Tuesday 02/03/2021 "TEM"</b> <a href="https://kth-se.zoom.us/j/68126851525">https://kth-se.zoom.us/j/68126851525</a>					
	09:15 – 10:00	Lecture	TEM – the instrument and electron-matter interaction	<b>TW</b>		
	10:15 – 11:00		Imaging using TEM and STEM, diffraction and other signals in the TEM			
	11:15 – 12:00		TEM in Wood-related research			
	13:15 – 14:00		TEM-based spectroscopy: EDS & EELS			
	14:15 – 15:00		Cryo-TEM		<b>CM</b>	
	15:15 – 16:00					
	<b>Wednesday 03/03/2021 "Sample Preparation"</b> <a href="https://kth-se.zoom.us/j/61466621952">https://kth-se.zoom.us/j/61466621952</a>					
	09:15 – 10:00	Lecture	Ultramicrotomy	<b>AZ, SP</b>		
	10:15 – 11:00					
	11:15 – 12:00		Cross-sectional sample preparation for SEM: mechanical polishing and BIB	<b>MH</b>		
	13:15 – 14:00					
	14:15 – 15:00				Dual Beam (FIB-SEM). Intro	<b>AR</b>
	15:15 – 16:00				Dual Beam. TEM Sample preparation	
	<b>Thursday 04/03/2021 "State-of-the-art EM"</b> <a href="https://kth-se.zoom.us/j/66880871536">https://kth-se.zoom.us/j/66880871536</a>					
	09:15 – 10:00	Lecture	Cryo-TEM tomography	<b>LS</b>		
	10:15 – 11:00		TEM 3D reconstruction	<b>TW</b>		
11:15 – 12:00	Environmental TEM vs cryo-TEM		<b>RW</b>			
13:15 – 14:00	SEM and FIB-SEM for liquid experiments and 3D imaging		<b>EO</b>			
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		<b>AR, AH</b>			
11	<b>Monday 15/03/2021 "Presentations"</b> <a href="https://kth-se.zoom.us/j/63131580885">https://kth-se.zoom.us/j/63131580885</a>					
	09:00 – 12:00	Oral exam	Oral presentations of proposals by students	<b>AR, AH</b>		
	13:00 – 17:00					

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