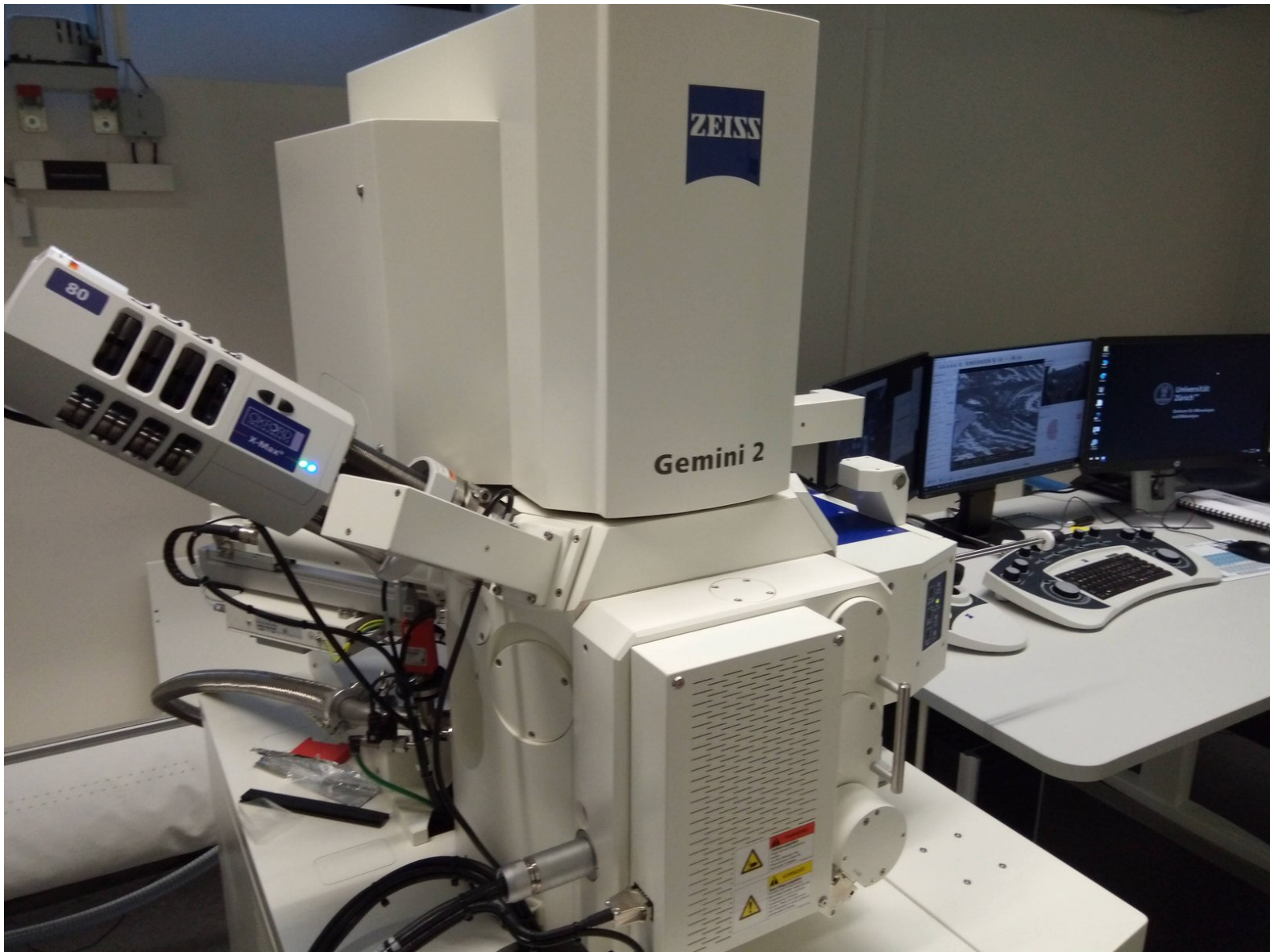# SEM-Gemini 450: Part 1 - Start-up

How to start software and mount the sample using the airlock
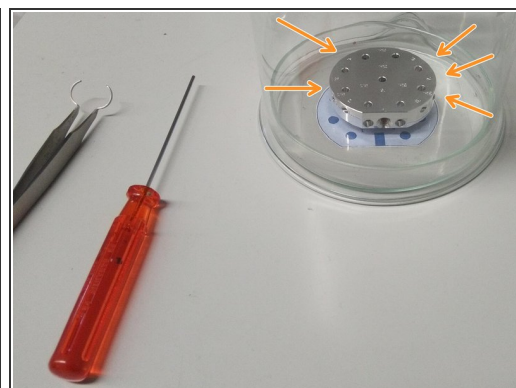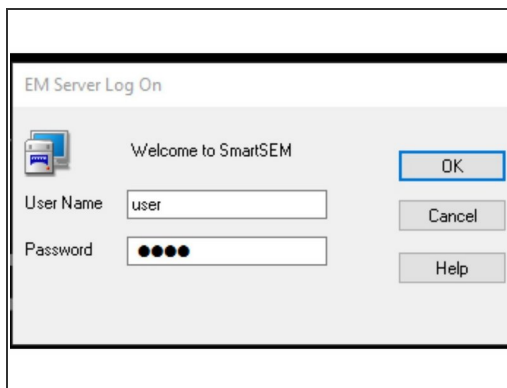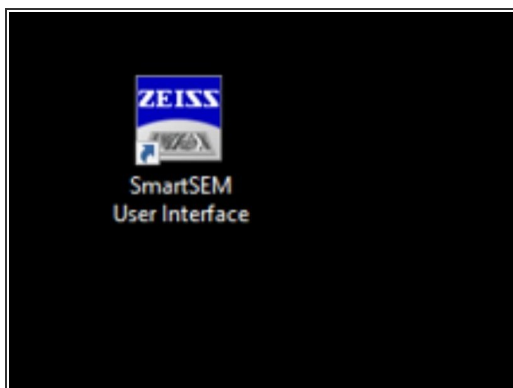
Written By: José Maria Mateos Melero

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INTRODUCTION

How to start the software and mount the sample using the airlock of the Zeiss Gemini 450 SEM at the Center for Microscopy and Image Analysis, University of Zurich.
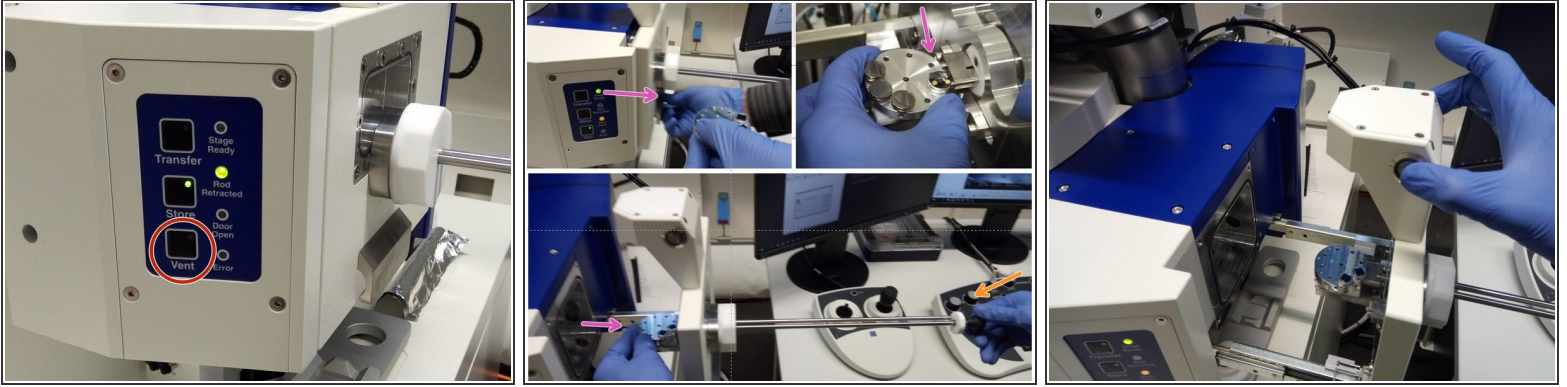
Step 1 — Login and mount samples

- Log in to the computer with your ZMB credentials.

⚠️ Wait until the feedback form loads!

- Start SmartSEM software (icon on desktop).

- Enter username and password: **user, user**.
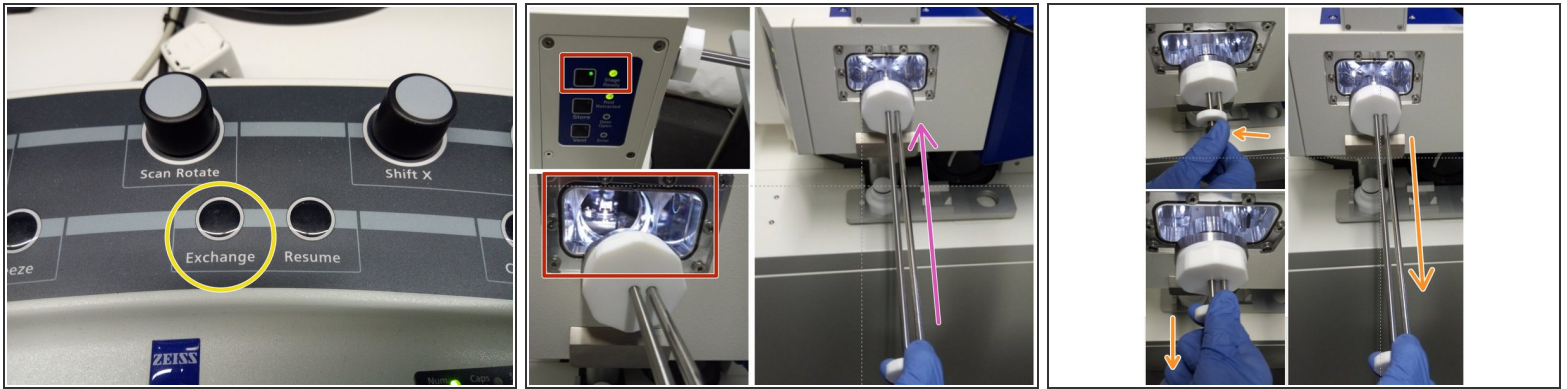
- Mount your samples on the sample holder.

⚠️ Always wear gloves!
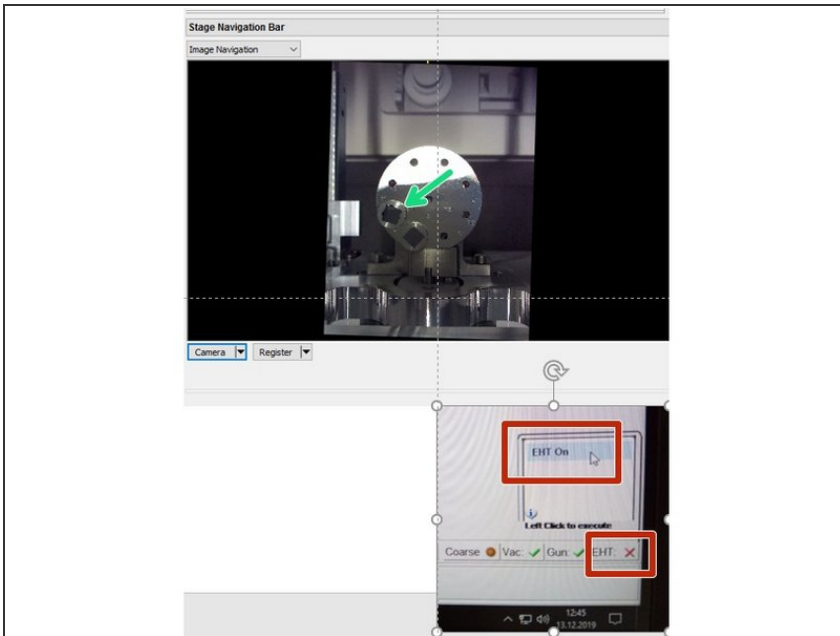
Step 2 — Attach sample holder in Airlock

- Press "Vent" on the airlock panel.

- Open the airlock and insert the sample holder. Attach the manipulator rod to the sample holder.

- Hold the holder with one hand and screw in the rod with the other hand.

- Acquire a preview image by pressing the camera button on the airlock or in the software. Wait until the image appears in teh SmartSEM software.

Step 3 — Insert sample holder in the microscope

- Close the airlock and press "Exchange" in the control panel.

- Wait until the transfer LED is on and not flashing anymore.

- Use the white piece at the far end of the rod to slowly insert the sample holder into the microscope.

- Unscrew the rod and use again the white piece at the far end to retract the rod to the lock position.

- Press Resume in the control panel.

Step 4 — Start high tension and navigate in xyz

- Select "EHT" and set it to "EHT on".

- Use image navigation to move the sample below the lens.