**Introduction to SEM and EDS for the New SEM Operator**

**Sunday, June 4, 2023**

*(****Lectures*** *are in* ***boldface****, Lab titles in normal font)*

Room # Personnel

*Morning*

8:15 - 8:30 Registration (Lobby of Whitaker Lab)

8:30 - 8:45 **Welcome** 303 *Kiely (Carol)*

8:45 - 9:30 **SEM Basics** 303 *Kiely (Chris)*

9:30 - 10:00 **Sample Preparation** 303*Kiely (Carol)*

10:00-10:15 Break

10:15-11:15 Lab: Basic SEM Operation 164 *Kiely (Chris)*

**(Group 1, see next page)**

Lab: Sample Preparation 247-251-153

**(Group 2, see next page)**

11:15-12:15 Lab: Sample Preparation 247-251-153

**(Group 1, see next page)**

Lab: Basic SEM Operation 164 *Kiely (Chris)*

**(Group 2, see next page)**

12:15-1:30 Lunch (Whitaker Lobby)

# Afternoon

1:30-2:30 **Imaging and X-ray Analysis in the SEM** 303*Kiely (Chris)*

2:30-3:15 **Element Identification and** 303*Watanabe*

**Compositional Analysis**

3:15-3:25 Break

3:25-4:25 Lab: EDS in the SEM  *Watanabe*

**(Group 1, see next page)**

Lab: Optimizing the SEM Image *Kundu*

**(Group 2, see next page)**

4:30-5:30 Lab: Optimizing the SEM image *Kundu*

**(Group 1, see next page)**

Lab: EDS in the SEM *Watanabe*

**(Group 2, see next page)**

5:30-7:00 The Introduction Course ends with dinner in the Whitaker Lobby

## Lab assignments

## There will be 2 groups of up to 6 each for the labs. The group assignments are given on

## a separate sheet.

The labs will be carried out on the following instruments, in the rooms indicated:

Microscope Room Staff/Operator

Hitachi 3500 164 Kiely/Watanabe/Operator TBD

Hitachi 4300 172E Kundu/Operator TBD

Sample Preparation

Polishing/Metallography 251 Annor

Sample Handling/Mounting 247 Carol Kiely

Sample Coating 153 O’Brien

*For the sample preparation demonstrations, each group will visit* ***all three stations*** *spending 15 minutes in each laboratory. The order for each group is listed below.*

Room

10:15-11:15 **Group 1**  164

**Group 2** 247 - 251 - 153

11:15-12:15 **Group 1**  247 - 251 - 153

**Group 2** 164

3:25-4:25 **Group 1**  164

**Group 2** 172E

4:30-5:30 **Group 1**  172E

**Group 2** 164