COST ACTION CA18112 MECHSUSTIND TRAINING SCHOOL 2020

CALL FOR TRAINEES

BASICS AND ANALYSIS OF MECHANOCHEMICAL REACTIONS USING MS/FT-IR COUPLED SIMULTANEOUS THERMAL ANALYSIS AND X-RAY SUB-MICRO-TOMOGRAPHY

Programme (All times CET):

Monday, November 23rd
10:00 – 10:30: **W1:** Welcome and Introduction (UB)
10:30 – 11:30 **W1:** Overview on mechanochemistry and methods on how to analyse a sample
How much chemistry is there in mechanochemistry?
In-situ methods to follow a solid state reactions; i.e. use your senses (look, colour, smell, consistency), XRD, XRM, Fluorometry, Raman, STA-MS, STA-FTIR (UB)
11:30 – 12:30 **W2:** Ball milling vs manual grinding: differences, thermodynamic and kinetic aspects (MCS)

Tuesday, November 24th - Pharma Day
10:00 – 11:00: **W3:** Solid-state analytics in pharmaceutical industry (UB)
11:15 – 11:45: **D 1:** Cocrystallisation via ball milling and grinding and for different periods of time (MCS)
12:00 – 12:30: **D 2:** Cocrystallisation via automated crystallisation (LF)

Afternoon: Release of videos on sample preparation for X-ray microscopy, thermal anlysis and temperature dependent X-ray diffraction

Wednesday, November 25th - Pigments
10:00 – 11:00: **W4:** X-ray microscopy/tomography in materials science (LF)
11:15 – 12:00 **D 3:** Analysis of obtained X-ray tomography data (LF)
12:00 – 12:30: **Q&A** on X-ray tomography (LF)
14:00 – 15:00: **W5:** Solid-state analytics of pigments (UB)

Afternoon Release of videos on pigment synthesis via ball milling/grinding and high pressure reactions.

Thursday, November 26th - Send your own sample

10:00 – 11:00: **W6:** Coupled thermal analysis in materials science (UB)
11:15 – 12:00: **D 4:** *In-situ* simultaneous thermal analysis and MS/FT-IR (UB)
12:00 – 12:30: **Q&A** on simultaneous thermal analysis (UB)
14:00 – 15:00: **D 5:** *In-situ* analysis using X-ray microscopy (LF)
15:00 – 15:30: **Q&A** on D5 (LF)

Friday, November 27th - Send your own sample

10:00 – 11:00: **W7:** Complete, publishable characterisation of solids: How reliable are my analytical results? (LS)

11:15 – 12:00: **D6:** Analysis of samples received from trainees – Part 1 (LMB)
12:15 – 13:00: **D7:** Analysis of samples received from trainees – Part 2 (LMB)
14:00 – 15:00: **Q&A** on all methods and experiments covered during this course (UB)
15:00 – 15:30: **W8:** Closing remarks (UB)

W: Webinar
D: Demonstration
Q&A: Questions & Answers
LF: Luke Frendo
LMB: Lynn Marie Barbara
LS: Lorella Spiteri
MCS: Marie Christine Scicluna