

Agenda for summer school SEAMAC project – Technion
10.9.2023 – 14.9.2023

Technion – The Israel Institute of Materials Manufacturing Technologies

Sunday 10.9.23

08:30	Welcome -Technion- Material science – Meydan building 3rd floor- room 301
Theoretical lectures	
09:00-10:30	Introduce AM including multi-material processing, post-processing. Show the challenges and the possibilities (FGMs). (Prof. Josko Valentincic, Prof. Edvard Govekar)
11:00-11:45	Technion overview – Visitor center
12:00-13:00	AM powder preparation, handling and safety issues (Keren Zohar Hauber)
13:00-14:00	Lunch break
Practical	
14:00-15:30	Workshop 1: Powder preparation and characterization using SEM, Gas analyzer, camsizer and XRF. (Strokin Evgeny, keren Zohar Hauber)
15:30-17:00	Workshop 2: Determination of process parameters ,build preparation and characterization (Strokin Evgeny, Keren Zohar Hauber)

Monday 11.9.23

Theoretical lectures	
09:00-9:45	State of the art in powder bed technology (SLM and EBM). (Dr. Alex Katz)
10:00-10:45	State of the art of Binder Jetting (Dr. Gary Muller)
11:00-11:45	Potential applications of dynamic beam shaping in DED. (Dr. Aleksey Kovalevsky)
12:00-12:45	Iron, Steels, HEA and Nickel based alloys in additive manufacturing and advanced characterization (Dr. Shmuel Arieli)
Practical	
12:45	Light Lunch + industrial tour CIVAN LASERS
19:00-20:00	Expected return time to the Technion

Tuesday 12.9.23

Theoretical lectures	
9:00- 9:45	Defects in metal additive manufacturing (Dr. Shmuel Arieli)
10:00-10:45	Heat treatments and HIP effect in PBF (Dr. Alex Katz)
Practical	
11:00-13:00	Workshop 4: Post processing of printed samples include: Mechanical testing (Roman Biletskiy), surface modification (Strokin Evgeny), phase determination and mapping using EBSD (Dr. Shmuel Arieli).
13:00-14:00	Lunch break
14:00-18:00	Workshop 4: Post processing of printed samples include: Mechanical testing, (Roman Biletskiy), surface modification (Strokin Evgeny), phase determination and mapping using EBSD(Dr. Shmuel Arieli).

Wednesday 13.9.23

Theoretical lectures	
09:00-9:45	Design for AM – (Dr. Alex Katz/ Dr. Gary Muller)
10:00-10:45	Process simulations- (Prof. Menahem Bamberger)
Practical	
11:00-13:00	Workshop 5: Hands on exploration: using FEM and ML to navigate defects in additive manufacturing (Prof. Shmuel Osovski)
13:00-14:00	Lunch break
14:00-18:00	Workshop 6 (Evgeny Strokin, Dr. Gary Muller and Dr. Andrej Jeromen) Using computer aided methodologies to design a small, complex (personal) PBF print. (overnight printing)



Thursday 14.9.23

Theoretical lectures + Practical			
9:00-11:30	Workshop 7 (Strokin Evgeny): Postprocessing - remove the printed samples of parts from workshop 6	9:30-11:00	SEAMAC project annual meeting
11:30-14:30	Light lunch+ Industrial tour Kanfit 3d		
14:30-15:30	Open discussion of results		
15:30-17:00	Summary and closing remarks		

Additional Information:

Contact information:

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(<https://goo.gl/maps/cB7d1JRNuGdyBASBA>)