



JITHINRAJ EDAKLAVAN KOROTH

HAMMAD UR REHMAN

**Doctoral candidates enrolled MAY, AUG 23**

**Completed**

**1**

In 2023 Jithinraj Edaklavan Koroth from India started his position in May and is working on advancing of PeP technology. Hammad Ur Rehman from Pakistan started his position in August, and is working on AM fabrication of FGMs.

**PeP test rig completed NOV 23**

**Completed**

**2**

With the additional funding from ARIS we were able to purchase a fully functional PeP machine, which we successfully installed in our workshop in November 2023.

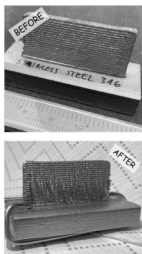


**First demonstrator produced and characterised MAR 24**

**Completed**

**3**

We optimized the Laser Metal Deposition (LMD), exploring parameters such as laser power and powder flow rate. Primary focus was on enhancing microstructure and mechanical properties for FGMs. PeP was used for post-processing and detailed metallurgical analysis was performed.



**Electrolytes to suit the FGM composition defined M17**

**In progress**

**4**

We have switched our focus of research away from cast iron. Plan of experiments is in place to investigate the electrolytes needed to polish the FGM intermediate layer from Inconel 718 and maraging steel.

**On-site training completed FEB 2023**

**Completed**

**5**

Organized by TECHNION, our first on site training took place in Haifa, Israel. Participants gained insights and knowledge on advanced materials for AM techniques. Non-technical staff performed job shadowing increasing ULs administrative competences.



**First educational video published on YouTube FEB 24**

**Completed**

**6**

The first educational video features a successful female scientist eng. Keren Zohar-Hauber, Head of R&D at Technion, presenting her journey that lead her to the field of Material Science in Additive Manufacturing of Metals.



**First joint scientific publication on AM of FGMs MAR 24**

**Completed**

**7**

Discussing the use of plasma electrolytic polishing (PeP) for the post-processing of metal 3D-printed products. The first joint article was published in a journal Virtual and Physical Prototyping (IF=10.6), with a title: A Comprehensive Overview of Plasma Electrolytic Polishing (PeP).



**Events at UL successfully executed M33**

**In progress**

**8**

Preparations for the final event taking place in UL are ongoing. Our team is gathering experiences and increasing the network, both at home and abroad.

**Project communication environment in place MAR 23**

**Completed**

**9**

A communication environment based on Microsoft TEAMS environment with OneDrive cloud storage was established. Templates for SEAMAC documents were prepared. Additionally, we set up a SEAMAC webpage, LinkedIn page, Facebook account, and YouTube channel, all actively sharing project updates and engaging with the public.

[www.linkedin.com/company/seamac/](https://www.linkedin.com/company/seamac/)  
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