The Laboratory for Mechanical Metallurgy at EPFL and the Swiss Plasma Center are inviting candidacies for a Ph.D. student position. This position is funded by a large-scale project (Swiss equivalent to an ERC Advanced Grant funded by the Swiss National Science Foundation) that will explore the potential held by electromagnetic forces in harnessing melt flow and solidification towards innovations in the 3D printing of aluminium and its alloys. The Ph.D. thesis will have a goal of building an in-depth and predictive understanding of the physical phenomena at play in this process via the development and exploitation of advanced simulation tools. It will be conducted under the dual supervision of Professors Paolo Ricci and Andreas Mortensen, and will be conducted in symbiosis with a second thesis that will address the question experimentally.

Candidates are sought having a top-level academic education and a strong background in electromagnetism, fluid dynamics, simulation and computational techniques.

A motivation and the ability to excel in science and in teaching are essential. Employment is to begin preferably by October 2022.

EPFL is located next to Lake Geneva in a beautiful setting near the city of Lausanne. Salaries and working conditions are internationally competitive. The working language at EPFL is English (good skills essential).

Applicants are expected to be about to finish their Master’s degree, or to have earned their Master’s within a few years. Applications should include a cover letter with a statement of motivation, curriculum vitae, list of publications, transcripts from all years of university study, and the names and addresses (but not letters) of at least three academic referees. Questions and applications should be sent to Prof. Paolo Ricci and to Prof. Andreas Mortensen.