

**Master thesis – innovative cellulose products  
co-hosted by Bloom Biorenewables and Prof. Abitbol (EPFL)**

**Supervision**

Prof. Tiffany Abitbol, EPFL STI

Dr. Philip Scholten, Bloom Biorenewables Ltd (Renens)

**Envisaged start date**

From August 2022 onwards

**Project title**

Development and characterization of advanced sustainable cellulose products using a novel type of highly crystalline cellulose

**Short project description**

Bloom, in collaboration with Ecole Polytechnique Federale de Lausanne (EPFL), has developed the aldehyde-assisted fractionation (AAF) process to valorize the full potential of biomass. The process suppresses the undesired degradation pathways typically occurring with extracted lignin polymers and hemicellulose-derived sugars thanks to a stabilization strategy. In the quest towards integral biomass valorization, this Master thesis project focuses on the development of advanced applications from the cellulose fraction, representing up to 40% of the plants mass. The objective is to replace fossil fuels ingredients by sustainable cellulose in markets such as cosmetics or packaging. To help us develop this business area we are looking for a master student with experience in material science and/or chemistry. The project will involve the synthesis, characterization, and product development of different types of celluloses and will be co-supervised by Bloom and Prof. Tiffany Abitbol, Professor of Materials Science and Engineering at EPFL. The laboratory work will take place in both laboratories allowing the student to experience research in both academic and industrial settings.

If interested, please send your CV and a short letter of motivation to [tiffany.abitbol@epfl.ch](mailto:tiffany.abitbol@epfl.ch) and [philip@bloombiorenewables.com](mailto:philip@bloombiorenewables.com).