

Questions and discussion 7

Is there research in ceramic 3D printing at EPFL and why this technique is relevant? *Amandine*

No, there is no such research at EPFL. 3D printing is very useful for prototyping for example (prototype can be manufactured very fast and small changes can be done easily whereas for other techniques another mold has to be shaped which slow and expensive), also for very detailed shape it is very suitable (very precise and no sintering shrinkage issues), overall it is a very flexible technique.

Using the lotus leaf effects for making hydrophobic surfaces looks very complex, is it really worth it? *Meryem*

Nowadays most of the hydrophobic coatings use fluorinate compounds and its works very well. However, they cause both environmental and health problem since they are toxic, therefore they are more and more banned, for example ski waxes based on Fluor has been ban in 2021 in all the competitions and are now not available for sale.

So, new solutions to make hydrophobic surfaces need to be explored. Working on the microstructures of the material to obtain this lotus leaf effect is very promising and is already used.

The question about the interaction potential will be discussed in next week lecture so I prefer to wait so I don't confuse you before the real explanations