# Master's project: Validation and optimization of an open-source light-based bioprinter

Project description

Biofabrication technologies have improved and progressed rapidly in the bioengineering field. One contribution to this advance is the use of DIY (Do-It-Yourself) and/or Open Source Hardware. After building our own open-source extrusion bioprinter (NOSE[1]), we are currently developing a custom-made technology of light-based bioprinting. For this project the Rios group is searching for a motivated master student to optimize, improve and validate the printer design.
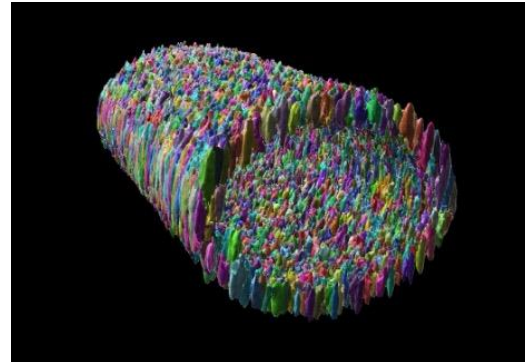
What will you learn?

- Extrusion/Optical bioprinting (Hard-/Soft- and Wetware)
- CAD modelling and 3D printing
- Working with photo-crosslinkable polymers
- Validation through 3D imaging
- Presenting in front of an interdisciplinary scientific audience

What do we need from you?

- You are a biofabrication master student or from a similar master's program
- You are driven by and excited about exploring new technology
- You have basic CAD modelling and/or programming skills, or are enthusiastic to learn them
- You are familiar with basic wet-lab work
- You have a growth mindset paired with a strong intrinsic motivation

The DREAM3D lab

The DREAM3D lab is a research group of the Princess Máxima Center lead by Dr. Anne Rios. We focus on advancing high-dimensional (HD) 3D imaging and human in vitro modeling technologies for deciphering human biology, as well as design of innovative treatments against cancer. Our group consists of motivated and passionate people, who like to find creative solutions to complex problems.
Check out Twitter for latest news: @Dream3DLab

Do you feel like joining our group on this exciting project? Please contact Maj M.B.Buchholz-2@prinsesmaximacentrum.nl or Nils N.B.Bessler@prinsesmaximacentrum.nl

Ref.:

[1] Nils Bessler, Dennis Ogiermann, Maj-Britt Buchholz, …, Beate Brand-Saberi; Nydus One Syringe Extruder (NOSE): A Prusa i3 3D printer conversion for bioprinting applications utilizing the FRESH-method; HardwareX,2019; https://doi.org/10.1016/j.ohx.2019.e00069.