MSc/PhD position in 3D laser-bioprinting of corneal regeneration bio-materials

The position is available immediately for a motivated student.

Global donor cornea shortage leaves 12.7 million on waiting lists, and only 1 in 70 patients treated. The ability to print functional corneal pro-generation/regeneration biomaterials can pave the way towards clinical adaptation of artificial corneas.

The student is going to adapt a laser-printing technology for 3D printing of pro-generation/regeneration biomaterials. She/he will also work on the design and optimization of a printable collagen-based biomaterial formulation. Finally, she/he will print artificial corneas and test their optical and biomechanical properties ex-vivo and in-vivo.

This is a collaborative project. The student should expect exposure to several research areas and will be able to develop in-depth expertise in at least two areas. Areas to be covered in the collaborative effort include 3D bio-printing, biomaterial design, optical instrumentation, pre-clinical study design, and animal models. The student will join the laboratories of Prof. Boutopoulos and Prof. Griffith at the Maisonneuve-Rosemont Hospital Research Center (CR-HMR) and will be registered at the Biomedical Engineering program at the University of Montreal.

Student profile:
- She/he is self-motivated and comfortable with interdisciplinary/collaborative work
- She/he is willing to work with in-vivo models
- Background: physics, biology, chemistry, biomedical engineering or relevant field
- Previous experience in any of the following fields will be considered an asset: bio-printing, biomaterials, laser physics, artificial cornea, optical instrumentation.
- Good communication skills in English. Basic French language knowledge is required for MSc candidates but not for PhD candidates (it will be considered an asset).

Application: For additional information, please contact Dr. Boutopoulos by email at christos.boutopoulos@umontreal.ca. For applying, send us your CV and university transcripts by email.

Application deadline: open until filled.

Salary: 19,000$ to 22,000$