

MSc et PhD in Medical Physics*

The Medical Physics Research Group of [CHU de Québec](#) – [Université Laval](#) (Department of physics, engineering physics and optics) is seeking master's (MSc) and doctorate (PhD) candidates interested in research topics spanning a large spectrum of disciplines, from High-Performance Computing applied to Medical Physics problems to the conception of advanced, plastic scintillators dosimeters.

Requirements for candidates are

1. an undergraduate degree in Physics, Engineering Physics and at least one course completed in Nuclear Physics (for MSc)
2. a master's degree in Medical Physics (ideally CAMPEP) or related field (for PhD)

Furthermore, the candidate will have

- demonstrated skills in experimental physics
- a good knowledge of numerical tools (e.g. Matlab)
 - knowledge of C++ and/or Python will be considered a plus

	Description	Requirements	Start date
MSc/PhD (LB)	Monte Carlo Calculation of Theragnostic Nanoparticle Agents	1 or 2	September 2017
MSc/PhD (LB) Fast track MSc-> PhD possible	Optimization of Non-Standard Needle Insertion Patterns for Robotic Brachytherapy	1 or 2	September 2017
MSc (LB)	Optimization of brachytherapy treatment plans using various dose calculation algorithms	1	September 2017
MSc (LA)	Robust adaptive morphology-based radiation therapy	1 or 2	May or September 2017
MSc (LA/PD)	Development of a radiomic framework to neurological pathology	1 or 2	May or September 2017
PhD (LA)	3D light pattern reconstruction framework for high accuracy dosimetry	1 or 2	May or September 2017
MSc/PhD (PD)	Dose calculation and follow-up in radiology	1 or 2	September 2017
MSc/PhD (PD)	Advanced tomographic reconstructions	1 or 2	September 2017

LB = Luc Beaulieu, LA = Louis Archambault, PD = Philippe Després

Candidates will be based at the Department of Radiation Oncology of CHU de Québec – Université Laval, in the historic heart of Québec, a UNESCO World Heritage city. The Department offers radiation therapy services to a population of 2M and treats more than 4000 patients each year. Equipments include 8 linacs (7 CBCT, 7 RapidArc), 1 orthovoltage unit, 2 brachytherapy afterloaders as well as a complete ultrasound navigation system for real-time procedures. The Department offers IMRT, TBI, radiosurgery and brachytherapy services. The candidates will join a team of 24 Medical Physicists as well as a recognized training program in Medical Physics*.

To apply: please upload a single file containing a letter of motivation, a recent transcript and a CV (all in PDF format) **before January 27th 2017**, to the following URL:
<https://physmed.chudequebec.ca/OpenCATS/careers/>

* Our programs are accredited by CAMPEP and endorsed by professional associations and certification boards across North America