

From: University Affairs/Affaires Universitaires June 27, 2008

Posted on 30 May 2008

Website:

[http://www.universityaffairs.ca/\\_careers/features/features\\_e.php?subaction=showfull&id=1212180027&archive=](http://www.universityaffairs.ca/_careers/features/features_e.php?subaction=showfull&id=1212180027&archive=)

---

## **So you want to be a clinical microbiologist? A postdoc finds out what you need to know**

Bring science from the bench to the bedside in a career that draws on your strengths in research and working with people.

by Nicole Arbour

A career in clinical microbiology offers the opportunity to let you keep one foot planted in academia and the other out, making it an attractive career path for many science graduates, so long as you can handle the microbes. The successful clinical microbiologist possesses the insatiable curiosity and problem-solving skills of the research scientist, as well as the articulate, managerial extrovert's ability to communicate effectively with the layperson. Can you relate to this description? Are you a detail-oriented person who enjoys teamwork? If you answered yes to these questions, a career in clinical microbiology might be right for you. If not, click here to consider another science career path.

### A day in the life of a clinical microbiologist

A clinical microbiologist has two major duties: managing a team of medical technologists and consulting with physicians ordering tests. Managing medical technologists includes helping to analyze test results and answering questions pertaining to incoming patient samples, or samples that are in any way unusual or difficult to identify. It also requires dealing with administrative matters that may arise. Reporting test results and consulting with physicians on tests requested — making sure that the appropriate tests were ordered, and that unnecessary ones are cancelled — are also important parts of your day.

Being a clinical microbiologist also involves the creation, optimization and implementation of assays for use in clinical diagnostics, as well as keeping up with current literature. In addition to these duties and depending on the specific position, motivation and experience levels, a clinical microbiologist can also run a research lab, teach at an affiliated university, work on international projects involving infectious diseases, be involved in policy making and consult for industry.

As someone who has completed a PhD in academia, you're already aware of the rigours of academic life, as well as the time it can take to translate research into something available in a clinical setting. As a clinical microbiologist, "you get the satisfaction of knowing that you have helped someone today, and not in 10 years or maybe never," said **Marc Desjardins**, a clinical microbiologist at the Ottawa General Hospital. Not only are you working with a team of highly trained technologists to identify the pathogens affecting patients in the present, but with the ability to develop and implement assays for clinical diagnostics, clinical microbiology really brings science from the bench to the bedside in a very appreciable way.

### What about the money?

After being accredited as a Fellow of the Canadian College of Microbiologists (FCCM) or receiving your American Board of Medical Microbiology (ABMM) accreditation (these certifications, which are mutually recognized, are explained in detail below), salaries start at around \$100,000, a significant difference from what you'll find in academia. While the salary disparity between an (FCCM/ABMM) accredited PhD, and that of an MD (despite similar jobs done in the lab) might be considered a downside, once you consider what your peers are making following similar training in academia, this may not seem like such a big deal.

What kind of work/life balance can you expect on the job? "The hours are flexible, but tend to be long, usually between nine to 10 hours a day. Often you have to take work home on weekends — teaching, grading, protocol writing and reading," explained Dr. Desjardins. As you become more established you will

also do more travelling, he said. This may be limited to one or two conferences a year at the start, but will likely become more frequent over time.

Meanwhile, advancement in this job, as with most, depends on the motivation of the individual, where they are employed, and how they personally define advancement. In clinical microbiology, there are many opportunities that can be taken advantage of. First, there is the possibility of teaching at a university and running a basic research lab. Research and development work, leading to presentations and publications on a national or international stage, will help to get your name out and establish your reputation in the community. From there, consulting opportunities may arise in the public, private or international development sectors.

Still with us? Great. It's time to learn how to find your way in the industry and, most importantly, how to get the accreditation you need to land the job.

#### Getting your foot in the door

Even before you graduate, if you've determined that clinical microbiology is a career path that interests you, there are a number of things you should be doing. For one, try to get in contact with and talk to the clinical microbiologists in your area. Most people will be more than happy to discuss their career path with someone interested in their line of work. You can check out both the Canadian College of Microbiologists (CCM) and American Society for Microbiology (ASM) websites for information and people to contact for more information on particular programs offered.

You'll also want to do as much networking as possible during your PhD training. Get to know your local microbiologists, both academic and clinical, as they will be indispensable sources of knowledge and support while applying to CCM-accredited or Committee on Postdoctoral Education Programs-accredited training programs (more on those in a moment). Become a student member of CCM or ASM, and get to know the organizations and how they work.

Meanwhile, following the completion of your PhD, you will still have to get your FCCM/ABMM accreditation to get through the door to a good clinical microbiology position. This certification also represents an internationally recognized accreditation that is sought after in both clinical and industrial settings internationally.

FCCM accreditation requires the completion of a three-year postdoctoral residency at the CCM-accredited program at Mount Sinai Hospital in Toronto. For more information on this program you can contact CCM registrar Raoul R. Korngold. An ABMM accreditation requires the completion of a two-year postdoctoral residency at a hospital in the United States that offers a Committee on Postdoctoral Educational Programs-accredited program in medical microbiology. A detailed list of approved postgraduate training programs can be found [here](#). To apply to one of these postgraduate training programs, see the following ASM web page for details. Following your residency you must write and pass an FCCM or an ABMM accreditation exam.

Finally, with your FCCM/ABMM accreditation in hand you're ready to start applying for positions. There are many excellent resources to start from, including the CCM, the ASM and the Canadian Association for Clinical Microbiology and Infectious Diseases (CACMID) websites, among others.

If you've made it this far, you may have what it takes to be a clinical microbiologist. But if you're still shopping around for other career ideas, check out some of our other science career profiles [here](#) and [here](#).

*Dr. Nicole Arbour is a recent graduate from the biochemistry graduate program at the University of Ottawa and currently works as a research scientist with Spartan Bioscience in Ottawa.*

*Dr. Marc Desjardins Ph.D., D(ABMM), FCCM, is a Fellow of the Canadian College of Microbiologists and member of the Board of Directors of the College.*