



Post-doctoral fellow position in Aging & Immunity

The Bowdish lab

McMaster Immunology Research Centre
M. G. DeGrootte Institute of Infectious Disease Research
McMaster University, Faculty of Health Sciences

This CIHR funded PDF position will study how aging, and specifically age-associated inflammation alters myeloid cell development and macrophage function. This will include performing flow cytometry assays to quantitate development and maturation of myeloid cells in human blood and depending on the applicant's interest and aptitude may include animal models. The successful applicant will be expected to develop a research project including all required experimental optimization, liaise with collaborators and research participants from multiple sites and write manuscripts to communicate research findings. The applicant must have a background in immunology and be a team player who is willing to mentor junior trainees and be an active participant in departmental seminars and events.

Essential skills

Flow cytometry

- This project requires significant skills in flow cytometry. Although most of the work will be done in human blood, expertise in mouse models would also be an asset. Please include details of your flow cytometry experience in your cover letter and be prepared to discuss the details of protocol development, trouble shooting and optimization if you are chosen for an interview.

Communication

- The applicant will be required to work closely with our research participants, including obtaining consent and filling out detailed health questionnaires. This will require the ability to describe the research in lay terms and to work with older adults who may have issues with hearing and site. The applicant will also be required to liaise with research co-ordinators from multiple sites to facilitate



McMaster University
1280 Main St W,
MDCL4077
Hamilton, ON, Canada



905-525-9140
x21551 (lab)
x22313 (D. Bowdish's
office)



bowdish@mcmaster.ca



www.bowdish.ca



shipments and answer technical questions. Excellent English skills are essential.

- The applicant will be expected to present research findings to the lay public, research coordinators, nurses and PIs and will need experience speaking to broad audiences. The applicant will be responsible for publishing manuscripts. Please describe your oral and written communication skills as well as your publication history (published and in preparation) in your cover letter.

Must be willing to learn:

Phlebotomy

- This successful applicant must be willing to take a phlebotomy course and take blood from our research participants.

BSL2 level blood processing

- The applicant will be handling human blood, including blood that may be infected with viruses and consequently will need to be committed to following sterile and safe practices.

GLP procedures

- All our human immunology work is performed in a GLP compliant laboratory and the successful applicant must be willing to work with all the required GLP procedures.

Immunology assays

- The applicant will perform ELISAs including multiplex ELISAs (e.g. Luminex).

Statistics/R programming language/Data visualization

- Analysis of complex datasets (e.g. multilinear regression) and the R programming language is essential.

Additional skills which may be an asset:

Animal models (e.g. chimeric bone marrow transplants)

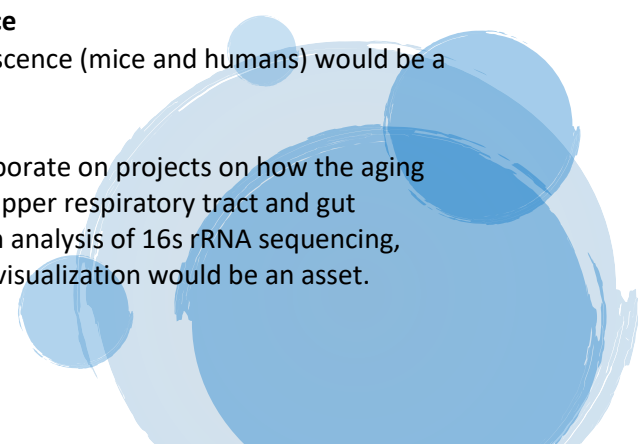
- There will be opportunities to test hypotheses and models using the Preclinical Studies in Aging Laboratory (PSAL: www.psal.ca), Canada's only aging mouse colony. Specifically, there are opportunities to study how the aging microenvironment alters myeloid development by performing heterochronic bone marrow chimeras.

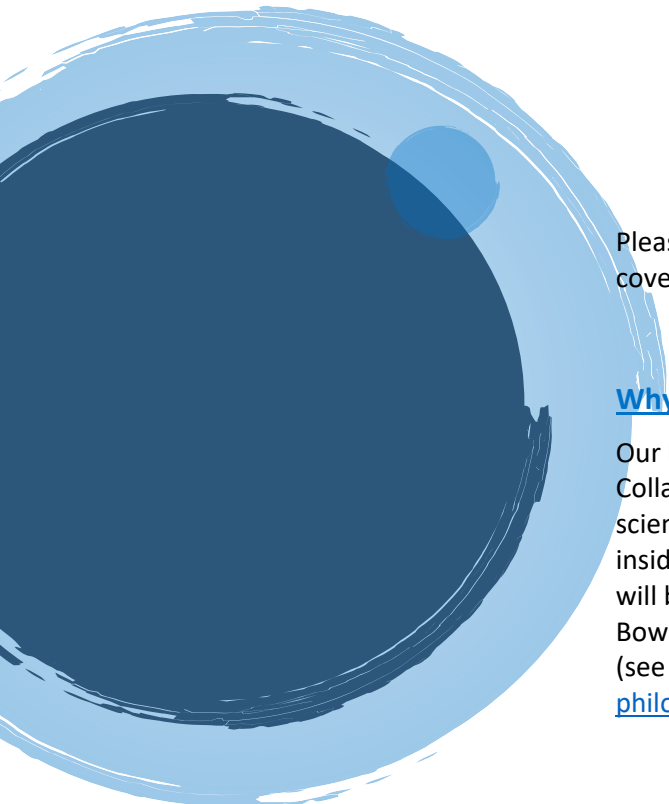
Immunosenescence/Senescence

- Experience in immunosenescence (mice and humans) would be a strong asset.

Microbiome analysis

- Opportunities exist to collaborate on projects on how the aging immune system alters the upper respiratory tract and gut microbiota. Experience with analysis of 16s rRNA sequencing, statistics and large dataset visualization would be an asset.





Please describe your experience with any of these techniques in your cover letter.

Why the Bowdish lab?

Our lab's core values are Diversity, Ambition, Innovation and Collaboration. These core values dictate our approach to doing science. We support our trainees career development for careers both inside and outside of academia and this project will provide skills that will be broadly desirable no matter what the career trajectory. The Bowdish lab supports scientists with families and diverse backgrounds (see our lab's diversity statement at <http://www.bowdish.ca/lab/lab-philosophy>). For more details on our lab see our website.

