

IMHOTEP'S LEGACY ACADEMY FACULTY OF DENTISTRY

SUMMER RESEARCH SCHOLARSHIP AWARD

Purpose

The goal of the Imhotep's Legacy Academy (ILA) is to increase the number of African Nova Scotians pursuing post-secondary education in the fields of science, technology, engineering and mathematics (STEM). The ILA offers weekly interactive STEM enrichment activities and homework help for junior high students, an on-line tutoring program for high school students and summer research internships for post-secondary students. The ILA has partnered with the Dalhousie University Faculty of Dentistry (FoD) to create this scholarship for African Canadians pursuing a dentistry degree in Nova Scotia. Its purpose is to increase the number of African Canadians in the field of Dentistry by providing related research experience.

Eligibility

Any African Canadian currently enrolled in undergraduate post-secondary STEM studies, e.g., science, engineering, health, in Nova Scotia is eligible to apply. Preference will be given to applicants who have participated, or intend to participate, in the Imhotep's Legacy Academy.

Description

One scholarship valued at \$6,500 is available for the summer, with equal contribution from the ILA and the FoD. This award may supplement any other award. The award is tenable at Dalhousie University under the guidance of a faculty member whose primary appointment is in the Faculty of Dentistry. In advance of their application, students are expected to identify and communicate with the prospective FoD faculty member(s), whose research is in an area of interest to the applicant.

Selection procedure

Selection is based on a combination of academic performance (50%), research ability (30%) and leadership/community involvement (20%). A cumulative GPA at the time of application in a science program of study of at least 3.0 is required.

Selection committee

The selection committee is composed of members of the ILA's Board of Directors and a representative of the Faculty of Dentistry.

Deadline

Submit completed application form (Part I), applicant's statement (Part II), and reference letter, along with most recent transcripts **via email** to:

*ILA-FoD Summer Research Scholarship Selection Committee
Dalhousie University*

Email: ***imhotep@dal.ca***

Information: Contact: Sidney Idemudia, Executive Director Imhotep's Legacy Academy
Phone: (902)494-2400 Toll Free: 1-866-996-9452 Email: ***imhotep@dal.ca***

IMHOTEP'S LEGACY ACADEMY - FACULTY OF DENTISTRY APPLICATION FOR SUMMER RESEARCH AWARD

PART I: Personal Data

Date				
Family Name		Given Name		Initials
ADDRESSES (Changes to contact information must be sent to admin.imhotep@dal.ca)				
Current Address		Permanent Mailing address		
Telephone number		Email Address		
CITIZENSHIP				
Canadian Citizen		Canadian Permanent Resident		International
ETHNICITY				
I am African Nova Scotian, African Canadian or person of African heritage.				
ACADEMIC BACKGROUND (Including ongoing postsecondary degree)				
Degree	Institution	Department	Month and year started	Month and year awarded/expected
Indicate if you are attending university at the time of application.				
Attending full time		Attending part time		Not attending
How many academic terms will you have completed towards your degree program when this award is held?				
Are you currently enrolled in an undergraduate STEM program?				
YES		NO		

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APPLICATION FOR SUMMER RESEARCH AWARD**

PART I: Personal Data

Family Name	Given Name	Initials
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ACADEMIC, RESEARCH AND OTHER RELEVANT WORK EXPERIENCE

Position held and nature of work Full time/Part time (begin with current)	Organization and Department	Supervisor	Period (mm/yyyy-mm/yyyy)

SCHOLARSHIPS AND OTHER AWARDS OFFERED (Start with most recent)

Name of Award	Value \$ (If any)	Type (Academic, Research, Leadership)	Level (Institutional, Provincial, National, International)	Location of tenure	Period held (yyyy/mm- yyyy/mm)

SIGNATURE

By signing this document you confirm that all information given is correct and you agree to abide by regulations governing the summer research award.

Signature

Date

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PART II: Applicant's Statement

*When preparing PART II use the following guidelines. Pages must be 8 ½" x 11" (216mm x 279mm); Pages must be single-spaced and one sided; All text must be in 12 point Times New Roman font; Margins must be set at a minimum of ¾" (1.87 cm); Your name must appear at the top right corner of every page; Pages must be numbered sequentially; **Maximum number of pages allowed is two (2)**; PART II must be submitted along with PART I and all other required documentation.*

A. Research Experience

Describe the scientific or engineering abilities that you have gained through your past research experience. For example experience gained from special projects, honours thesis or co-op reports. If you have relevant work experience (e.g. summer research position) discuss the relevance of that experience and any benefits you gained from it.

Also in this section, provide a brief overview of your research topic and provide the name of the Dalhousie University faculty member who will be supervising your research.*

Note: The research topic and faculty supervisor must be identified and confirmed before an offer letter can be issued to the selected scholar.

**(Please see the attached list of Dentistry faculty supervisors and their areas of research.)*

B. Relevant Activities

Describe your professional and extracurricular activities that most demonstrate your communication, interpersonal, and leadership skills. Examples of these include presentations (oral or poster); mentoring; teaching; project management; committees; supervisory experience; elected positions held and volunteer work.

C. Special Circumstances

Describe any special considerations that have had an effect on your performance or productivity, including health problems, family responsibilities, disabilities or other circumstances. The selection committee will take these circumstances into consideration when evaluating your application. If your supervisor/employer is unable to provide you with a reference letter, you may use this section to provide an explanation.

DENTISTRY RESEARCH SUPERVISORS

- Dr. Locke Davenport Huyer
 - Dr. Mark Filiaggi
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Supervisor: Dr. Locke Davenport Huyer

Research program: Polymer based biomaterials are foundational to successful medical advances, yet many adverse outcomes are caused by non-optimized interaction of material chemistries with the human immune system that often cause prolonged inflammation and alteration of desired medical device use. Our lab is focused on an improved understanding of how immune cells interact with material surfaces and designing degradable polymer materials that can inherently manipulate immunological functionality.

Potential projects:

- Optimization of polymer synthesis parameters for immune-modulatory degradable polymer materials
- Development of an *in vitro* cell culture assay to screen modulatory material functionality

Relevant background: We are open to application from a number of backgrounds. Knowledge in areas including immunology, cell culture, polymers, organic chemistry is an asset; but lack of research or technical experience in these areas should not prevent interested students from inquiring about a potential fit with projects.

Contact:

www.davenporthuyerlab.com

l.davenporthuyer@dal.ca

Supervisor: Dr. Mark Filiaggi

Project Description:

Chronic bone infections are often very difficult to treat. A focus of our research program is to develop materials derived from polyphosphates, an inorganic polymer, and chitosan, a polymer derived from shellfish, that are capable of locally delivering antimicrobial therapeutics to the infection site while also facilitating new bone formation lost due to the infection. These therapeutics include traditional antibiotics and metallic ions.

Student Role:

Working in collaboration with a doctoral student, the summer research student will develop and optimize protocols for obtaining therapeutically-loaded polyphosphate-chitosan beads, and assess therapeutic loading and release.

Requirements:

Basic chemistry laboratory skills (pipetting; making solutions; etc.) an asset.

Contact:

<https://www.dal.ca/faculty/school-biomedical-engineering/our-people/our-faculty-atok/MarkFiliaggi.html>

filiaggi@dal.ca