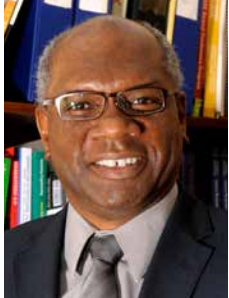


2018/19 ANNUAL REPORT

CELEBRATING BLACK
EXCELLENCE IN STEM



MESSAGE FROM THE CHAIR



Imhotep's Legacy Academy has created a program structure that is successful in delivering results. We focus on motivating junior high and high school students to enter science, technology, engineering,

and mathematics (STEM) fields through hands-on activities (via our After-School Program, *FIRST* LEGO League Program, RBC iCode+ Program, and summer outreach), tutoring (via the Virtual School Program) and scholarships (via the ILA-TD Opportunity Scholarships and motivating university students via the Summer Student Research Scholarships), and we are dedicated to finding and inspiring the best students to think of STEM as a professional destination.

According to the Dalhousie Census from 2013 to 2018, the percentage of African Nova Scotian students in engineering increased from 0.1% to 0.8%; the corresponding increase for science was 0.3% to 1.0% and most of these students are directly traceable to ILA's programs.

This year was one of expansion: we moved to a state-of-the-art Learning Centre/office space on Dalhousie University's Sexton campus and opened a new Makerspace for more hands-on engagement; we increased our outreach efforts to elementary/junior high schools and to more community programs; and we have been seeking ways to best share our model to benefit youth within Nova Scotia's Indigenous and French communities, and in global communities in the African diaspora.

ILA is changing our world and we appreciate having you take this journey with us.

J. Pemberton Cyrus, PhD, PEng, FEC
*President, Imhotep's Legacy Academy, and
Associate Vice-President Academic (Acting),
Dalhousie University*

MESSAGE FROM THE EXECUTIVE DIRECTOR



My work at Imhotep's Legacy Academy in the last four years has been very enlightening. I've learned a lot about the African Nova Scotian (ANS) community and the learners that we serve. Students are always eager to learn

something new in a welcoming and friendly environment. With time, shy students tend to open-up and feel connected to their peers attending the ILA program(s).

As the 2018/19 program year comes to an end, we prepare to make more impactful STEM memories with ANS learners. Congratulations are in order to our graduating participants who are transitioning from high school to university and mentors/participants transitioning from post-secondary education to the workforce. We wish you all the absolute best and want to stay connected to you all as you continue your journey.

The success of ILA is due, in large part, to the support we receive from you: the principals, teachers, student support workers, members of the community, sponsors, partners, mentors, parents and students. You all are members of the ILA family and the ILA staff is appreciative of you supporting the work we do. As we start a new program year, I remain committed to our mission and am eager to see how this new year unfolds.

Mr. Sidney Idemudia, BEng
Executive Director, Imhotep's Legacy Academy

ABOUT US

Imhotep's Legacy Academy (ILA) is an effective and successful, province-wide outreach organization, established in 2003. Based at Dalhousie University, ILA is built on a strong university-community partnership. It aims to redress the underrepresentation of African Canadians in postsecondary Science, Technology, Engineering & Mathematics (STEM) studies.

ILA uniquely mobilizes university students, faculty and community leaders to help improve student success and bridge the achievement gap for Grades 6–12 African Nova Scotian (ANS) learners.

ILA provides its participants with an enriching blend of real-world learning projects, skill-building and leadership development activities, as well as tutoring support.

ILA, operating in more than half of Nova Scotia's Regional Centres for Education, trains and supports university students to play powerful roles in the lives of its participants through the building of self-confidence, self-discipline and the mastery of concepts related to scientific, technical, engineering, and mathematics fields.

HISTORY

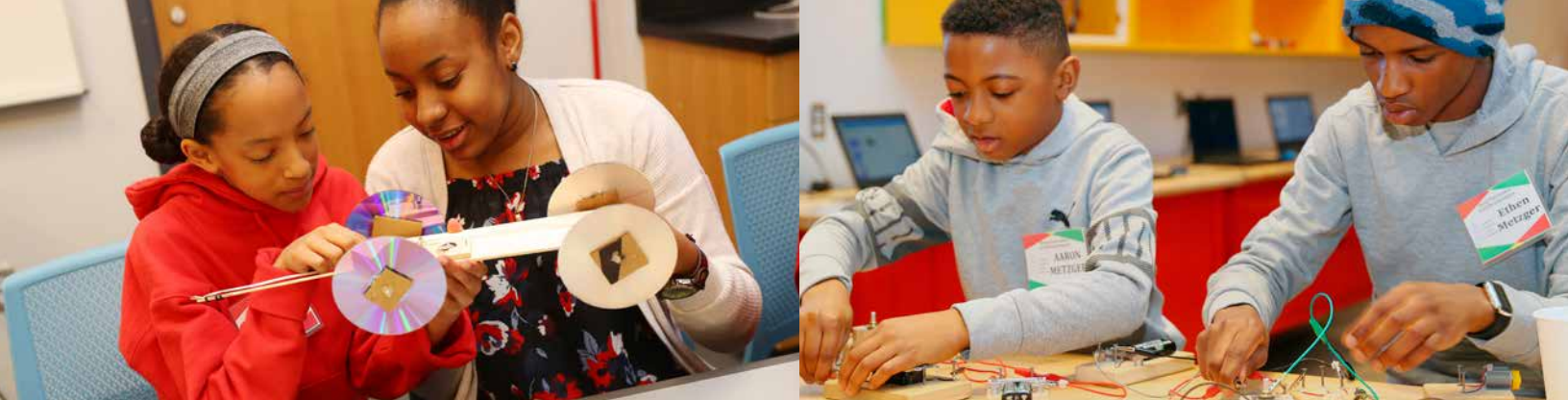
In 1999, a science outreach workshop dubbed “Imhotep's Legacy Project I” was organized in Vancouver by Dr. Kevin Hewitt, for kindergarten to grade 8 African Canadian students. Around the same time in Halifax, a one-week Afrocentric Science Academy was organized by Dr. Barb Hamilton-Hinch (who at that time was Dalhousie University's Black Student Advisor) and others. Dr. Hewitt's experiences led to a discussion with Mr. Wayn Hamilton and the conceptualization of a series of Imhotep's Legacy Projects. Mr. Hamilton identified Dr. Hamilton-Hinch, who came on board to lend her connections. Years later, with the dedication of many, Imhotep's Legacy Academy operates across Nova Scotia, making STEM subjects accessible and interesting while also supporting academic success.

EXPECTED OUTCOMES

- Involve members of the Dalhousie community, science teachers, African Nova Scotian learners and their parents, in ILA's programs.
- Increase enrolment of African Nova Scotian learners in STEM programs at Dalhousie University and at other post-secondary institutions.

DID YOU KNOW?

Since 2003, Imhotep's Legacy Academy has successfully provided Science, Technology, Engineering & Mathematics (STEM) enrichment programs to thousands of secondary school learners.



ILA'S PROGRAMS

ILA's **After School Program (ASP)** introduces junior high school students of African descent to curriculum-related science and math activities intended to develop their interest in, and increase awareness of, these subjects. Mentors visit junior high schools on a weekly basis and alternate between math and science activities. These sessions are an opportunity for students to develop an interest in STEM subjects and get extra assistance with their homework. The science activities are hands-on and interactive, using common household items familiar to students. The math activities are tailored to strengthen their skills in mathematics concepts. The university students who act as Mentors are essential to the success of the program. Our Mentors work to develop a relationship with their students and they are also role models, as they themselves are pursuing STEM-related fields in their post-secondary studies.

ILA's **Virtual School Program (VSP)** provides tutoring to students of African descent in grades 9–12 throughout Nova Scotia. ILA Mentors interact with participants online, on-site at the ILA Office (currently located in Dalhousie University's Sexton Memorial Gymnasium Building) or at select schools in the Halifax Regional Municipality. The program is designed such that every participant has access to a Tutor. In addition to receiving tutoring, VSP participants can participate in workshops and other fun activities that enhance their educational experience and prepare them for post-secondary studies.

ILA's **FIRST LEGO League (FLL)** Program is a robotics program designed to get junior high school students of African heritage, aged 9–14, excited about science and technology. It teaches students the value of working together and of solving problems. Each year, ILA's FLL teams can compete in regional and provincial competitions. The challenge for each year has a central theme based on a real-world scientific topic (for example, the theme for 2018/19 was *Into Orbit*). Imhotep's Legacy Academy has participated in FLL competitions since 2011, and over the years our teams have received awards for "Presentation", "Mechanical Design", "Technical Design", "Robot Design" "Spirit and Enthusiasm" and "Project Innovative Solution" at the regional and provincial levels. In 2017, our *Legos 'R Us* team qualified as 1 of 20 worldwide teams to compete at the *Global Innovation Award* competition in Washington, DC.

In 2017, ILA partnered with the Black Business Initiative's Business Jammin' (BIJ) to launch the **RBC iCode+ Program** to teach coding to ANS learners. This program is designed to engage learners with hands-on coding exercises. It introduces students to the use of open-source software and hardware to code robots, thus keeping the program exciting. The program runs for 25 weeks and has 22 learning modules and 3 individual project modules. At the early stage of the program, participants learn the fundamentals of coding, and as the modules advance, the level of coding increases. Participants will learn how



to control current, voltage, and resistance using combinations of hardware and code. They will be introduced to 3D CAD drawing and printing, and by the end of the program, they would have built an autonomous robot.

ILA's **Summer Student Research Scholarships** (SSRS) are offered in partnership with Dalhousie University's Faculty of Science, Engineering, Health, Computer Science and Faculty of Medicine to create research scholarships for African Canadians pursuing an undergraduate degree in computer science, science, engineering, or any health profession, at a university in Nova Scotia. The scholarships, valued at \$6,500 each (\$5,000 for Medicine), are tenable at Dalhousie University over the summer months (May–August) to support university students as they conduct specialized research in their chosen field under the guidance of a Dalhousie faculty member whose primary appointment is in one of the sponsoring Faculties. Students will gain valuable experience in the design, execution, and evaluation of experiments.

The **Imhotep Learning Community** (ILC) is a peer-mentorship group formed of university students of African heritage to support each other as they progress through university and/or college (regardless of discipline). ILC members may also be mentored by university faculty and staff. This intentional community meets once a month for an event that is focused on building students' success and offering a safe space to receive encouragement. Events are planned by the ILC Executive Committee, a six-person volunteer

student body comprised of a President, Vice-President, Social Media Coordinator, Secretary, and two Events Team personnel. All ILC members serve as advocates, promoting the ILC and ILA to the broader university and external communities.

In partnership with TD Bank, the **ILA-TD Bank Opportunity Scholarship** is a four-year renewable scholarship for ILA program graduates entering Dalhousie University. Its purpose is to reduce the financial barrier for African Nova Scotian students pursuing studies in STEM-related fields. The value of the award is based on participation in ILA's programs. Each year a student remains active in ILA, an additional amount is added to the value of their scholarship promise, to a maximum of \$5,000. The table below illustrates the award increments by grade:

GRADE	7–10	11	12
Future four-year renewable award at Dalhousie per year	\$500	\$1000	\$2000

In partnership with the African Canadian Services Branch (ACSB) and their Summer Scholar community-based summer camps, ILA offers a two-day **Summer Rocket/Drone Activity**. Elementary and junior high school-aged campers are taught how to build and launch rockets and drones as a means to stimulate their interest in STEM. Also included are presentations on safety and space science.

ILA also has several **ongoing initiatives**, including the: Science Quiz Tournament; Science Activity Videos; STEM Project Challenge; and Learning Skills Workshops.



CHALLENGES FACING YOUTH

African Nova Scotians have a long history in Nova Scotia. Over the years, despite adverse conditions, African Nova Scotians have made meaningful contributions to Nova Scotian society and have always endeavoured to improve conditions for succeeding generations. Some young learners of African heritage; however, continue to find it challenging to develop into academic achievers in science and math within educational institutions that do not value their heritage, their abilities, or their input. Some other factors include:

- The nature of classroom instruction and interaction.
- Insufficient exposure to science as it relates to the life of the young learner.
- Failure to promote skills fundamental to the development of an appreciation for scientific inquiry.

By focusing on several subject areas in science, and adopting a mentoring scheme, Imhotep's Legacy Academy offers a unique approach to enhancing the quality of math and science education for young learners of African heritage.

In order to effect meaningful change, we can't just offer a “drop in a bucket” but, rather, we need to make sustained efforts in a way that works for the people involved.

– Dr. Kevin C. Hewitt, co-founder of ILA, Professor, Department of Physics & Atmospheric Science, and Senate Chair, Dalhousie University

I'm just trying to motivate people to see that life is a work-in-progress, but that no matter what your experience is, it can always be better. You should always believe that it's going to be better and work towards that.

– Ms. Bai Bintou Kaira, BEng (Chemical)'18, 2017 3M National Student Fellow, 2017 Dalhousie Governors' Awardee, ILA VSP Tutor

2018/19 PROGRAM OVERVIEW



As with previous years, 2018/19 was spectacular, with outreach efforts playing a big role. For the second year, we celebrated Science Odyssey and Science Literacy with other STEM organizations in Canada. Our esteemed guest speaker for Science Odyssey was Dr. K. Renée Horton, a Space Launch System (SLS) Lead Metallic/Weld Engineer at NASA. ILA's 14 programs remain crucial to impacting learners of African heritage; we reached over 1,800 learners this year, which is more than double that of the previous year. Through our programs, ILA has contributed to an eight-fold increase in African Nova Scotian (ANS) enrolment in engineering, and a tripling of ANS science enrolment at Dalhousie University. We celebrated Black Excellence in STEM throughout the year with this theme being the main focus of a conference we hosted in partnership with the Delmore "Buddy" Daye Learning Institute (DBDLI). We remain committed

to providing tuition scholarships for ANS youth — we selected eight new ILA-TD Opportunity Scholarship awardees and paid out \$29,000 in scholarships (not including the Summer Student Research Scholarships) this year.

On November 19, 2018, we marked our 16th year of operation by moving from two small study rooms (366.14 ft²) in the Killam Memorial Library — which we occupied for nine years — to our new Learning Centre/Office space and Makerspace (1,257.44 ft² and 713.30 ft², respectively) located on the Dalhousie University Sexton Campus at 1360 Barrington Street, rooms J134 and A103. The Learning Centre is equipped with laptops, study tables, chairs, a small library and other learning resources. The Makerspace offers a practice and creative development space for ILA Mentors and participants, offering 3D printing stations and special project areas for soldering and woodworking.



Mr. Wayn Hamilton performing a libation ceremony during the launch of the ILA Learning Centre and Makerspace

Both the Learning Centre and Makerspace enable wireless integration of devices with an in-house A/V system. Students who attended sessions in the Learning Centre or Makerspace gave feedback indicating how inspirational these new spaces are for them to learn.

On December 3, 2018, we hosted students, DAL faculty/staff, and parents at a **Holiday Reception** held in the ILA Learning Centre. This event was very special as it was used to bid farewell to the outgoing Dalhousie University President, Dr. Richard Florizone, who was a staunch supporter of ILA's work in the university and community. Subsequently, on January 23, 2019, we held an **Official Launch and Grand Opening** of the ILA Learning Centre and Makerspace. This event was attended by students, parents, educators, DAL staff & faculty, sponsors, partners, community members, and dignitaries. To bless the space, the event opened with a prayer and smudging ceremony led by Elder Jane Abram of Millbrook First Nation and a libation ceremony led by Mr. Wayn Hamilton. We received remarks from the Honourable Tony Ince, Minister of African Nova Scotian Affairs, Member of Parliament Andy Fillmore, and Dalhousie University Interim President Mr. Peter MacKinnon. All speakers were joined by Eve Wedderburn (ASP participant and Grade 8 student at Oxford Jr. High School) and Jasmin Desmond (former participant and first-year Dalhousie BSc student) to unveil a commemorative plaque for the space.

PROFESSIONAL DEVELOPMENT (PD) TRAINING AND PROGRAM REPORT

This year we hired and trained 27 part-time staff to serve as Mentors and Tutors to ANS secondary school learners across Nova Scotia. To maintain a high standard with our STEM activities, we hired six full-time Summer Developers, one Program Assistant, and one ANS Science Outreach Coordinator during summer 2019. We held three Professional Development (PD) sessions throughout the year, including a session in which Dr. Isaac Saney provided staff with an informative overview of African Nova Scotian history. The PD sessions provide opportunity for ILA program staff to receive feedback from faculty professors on their science activity presentation skills as well as acquire strategies for fostering amicable mentor-mentee relationships with ANS learners. They also have opportunity to meet one another, to learn best practices for time management, and to acquire a deeper understanding of ILA's mission and programs.

Through NSERC PromoScience funding, ILA hosted a **Science Literacy Week** event for ANS learners. As this year's theme was *science and space*, we engaged junior high school students in a hands-on STEM activity entitled *Relative positions of the earth, moon and sun*. After the hands-on activity, students participated in ILA's first annual *STEM Quiz Tournament*. Prior to the event, students were grouped into teams comprised of three senior high and two junior high school students per team; all members were provided with *STEM Quiz Study Guides* to prepare. At the end of the tournament, the Generation One Leadership Initiative (G1LI) *Science Gladiators* team emerged the winner and every member received a Samsung Galaxy Tab E 9.6" tablet. G1LI is a non-profit organization that offers fun, educational, and inspiring experiences in science, technology, engineering, arts and math (STEAM) to children of African heritage.

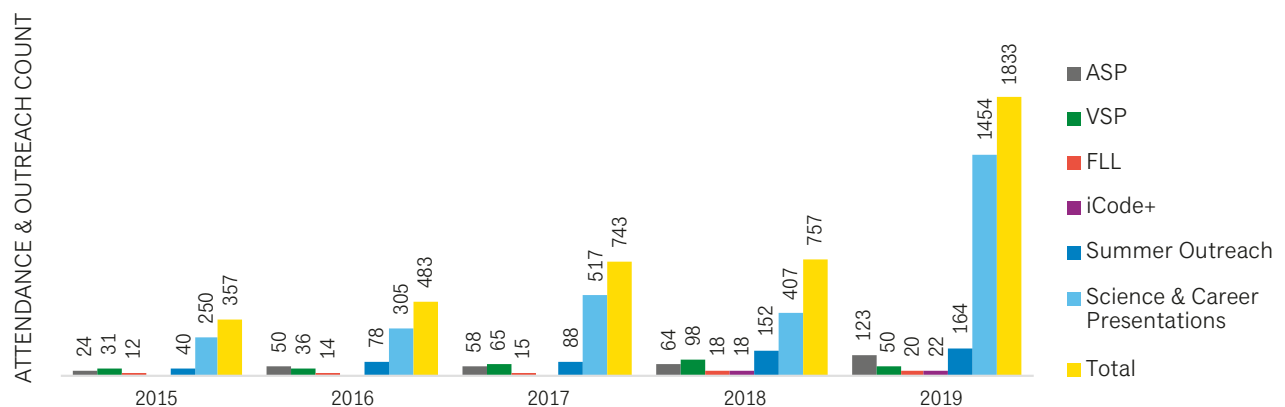
This year, the **After-School Program (ASP)** was complemented by Science Outreach and

STEM Magic Show initiatives that took our STEM activities to more schools and community centers across Nova Scotia. The core ASP sessions ran on a weekly basis from October 2018 to June 2019. ASP Outreach was delivered on a bi-weekly basis to Ellenvale Junior High School and Brookhouse Elementary and the STEM Magic Show demonstrations occurred as one-time precursors to the regular ASP school site sessions and as special science presentations to requesting schools. This year the ASP had 123 participants from the weekly sessions held in Halifax, Dartmouth, Annapolis Valley, and Antigonish, with partial to no participation at our Sydney and Truro sites, respectively. We also set up the ILA Makerspace as an ASP site for students in HRM to attend. Throughout the year, the Outreach and STEM Magic Show initiatives were spread out across the province to schools and centres in the Halifax Regional Municipality (HRM), New Glasgow, Antigonish, Kentville and Sydney. Overall, students who participated in the ASP expressed their excitement and enthusiasm for the program-- which would not have been possible without our mentors, student support workers, funders, and community partners.

The **Virtual School Program (VSP)** started as early as September and ended in June to prepare students for early and late exams. Some participants chose to attend the daily tutoring

sessions at the Imhotep's Learning Centre from 4–6 p.m. while others called-in for one-on-one online tutoring via Skype. Additionally, our Tutors delivered on-site tutoring at select schools: Gorsebrook Junior High School, Chebucto Connections in the Spryfield area, Prince Andrew High School, Auburn High School, and Citadel High School. We were delighted to continue our partnership with Auburn Drive High School to provide tutoring support to students in their Africentric Math Cohort Program. During the year, we hosted tours of students from several schools who came to view the Imhotep's Learning Centre and Makerspace as a potential vibrant study space. We engaged students in a weekly Trivia Night Quiz on Fridays, giving students an opportunity to expand their knowledge and win prizes. Fifty students actively participated in the VSP program (there were 99 formally registered) and received tutoring either online, in person at the ILA Learning Centre or on-site at their school. Some of the feedback received from students noted: "The support from the Tutors was very helpful. [They] went above and beyond, including after hours." Participants appreciated one-on-one tutoring times with our Tutors who were not only knowledgeable but also always friendly, caring, and respectful. Participants were also appreciative that we provided them with snacks during the ILA Learning Centre tutoring sessions.

Figure 1: Distribution of ILA program participation from 2015 to 2019.





FLL team members engage a guest in a robot challenge

The **FIRST LEGO League (FLL) Program** was packed with fun and excitement for the students. The theme for this year's FLL competition was *Into Orbit* and the Oxford Jr. High School team was eager to tackle robot design and the research project. Although most participants were new to the program this year, they quickly became adept with the skills necessary for the competition. Although the team did not qualify for the provincial competition, they remained positive and determined to qualify in the following year. This year, 20 students attended at least one FLL session, and during that time they would have either learned how to code or gained soft skills such as teamwork, teambuilding and friendly competitiveness.

The **RBC iCode+ Program** ran during the academic session from October to June. In collaboration with the Black Business Initiative's Business Is Jammin' society, we delivered weekly sessions to students (between the ages of 16–27) at the Halifax West High School and the Community YMCA. ILA also delivered an **iCode+ Program** at the ILA Makerspace for junior high and high school students interested in learning how to code. This program offered students the option of learning coding through lessons that involved programming robots and programing using VBA to create an application for economic analysis using Microsoft Excel.

The **Summer Student Research Scholarship (SSRS)** was awarded to five students — one student from the faculties of Engineering, Science, Health, Medicine and the newly added Computer Science. On September 7th, 2018, the scholarship recipients from the previous year gave a poster presentation of their research to an audience consisting of faculty, staff, students and members of the community. During this presentation Mr. Ogheneruemu Ememoh, a 2017 SSRS alumni gave a testimony of his experience conducting his research and the impact it had on his education and career. He was excited to share his post-research story. He was invited to present his research findings to other groups, which led to a job opportunity. Over summer 2019, students conducted research under the supervision of a Dalhousie University faculty member in their respective labs. Through the support of our Dalhousie University faculty partners and various sponsors, we awarded \$31,000 worth of research scholarship to five university students.

This year, the **Imhotep's Learning Community (ILC)** hosted five events with an average of 20 university students attending the events. On October 11, 2018, the ILC held its first-ever event, a *Meet and Greet* enabling students from various faculties to meet and get familiar with the program.



2018 SSRS recipients. From the left: Rafeeda Khashmelmous, Tarmy Abbot, Jennifer Kpolu, Olufolakemi Akpan

On November 21, 2018, the *Games and Paint Night* gave students an opportunity to de-stress and relax prior to December exams. On February 7, 2019, the ILC hosted a *Black History Month Trivia Night* event that was focused on Black Canadian, African-American, African and Caribbean trivia. On March 5th, 2019, the ILC hosted the impactful *The DAL Black Student Experience: A Student Panel Discussion on Balancing Academics, Extracurriculars and Social Life*, which featured upper-year undergraduate and graduate students talking about their experiences at Dalhousie University and other post-secondary institutions. The guest speaker, Dr. Ivan Joseph, Vice-Provost Student Affairs, talked about his

journey from university to his current position leading a department dedicated to ensuring positive experiences for university students at DAL. This event led to great discussion among students on their experiences and many students left the event with new advice from fellow students on studying, balancing life and academics, and managing stress. The last event of the year, *Study and Chill*, offered students opportunity to congregate for group studies and snacks. In the new program year, the ILC Executive will continue to offer events that focus on empowering university students of African heritage through holistic academic success.

Summer 2019 Summer Student Research Scholars

Student Name	Faculty	Project Title	Supervisor
Gillian Stanton	Engineering	Wastewater treatment optimization: Steps towards improvement for 2040	Dr. Amina Stoddart
Jasmine Moreash	Health	Perceived racism among Black and White women living with psychological distress in Halifax: Links with mental health helpseeking	Dr. Amy Bombay Dr. Ingrid Waldron
Olufolakemi Akpan	Medicine	Exploring the efficacy of virtual reality interventions for increasing range of motion in elderly populations	Dr. Janice Moreside
Tanaka Shumba	Science	Operationalising cognitive processes for an EEG-based neurofeedback study	Dr. Timothy Bardouille
Jennifer Kpolu	Computer Science	Social Media Analytics of the Nigerian Presidential Election	Dr. Rita Orji

MY ILA STORY



Obed Harun is a grade seven student at Rocky Lake Jr. High. He is regularly involved with Imhotep's Legacy Academy programs, including the After-School Program (ASP) and *FIRST* LEGO League (FLL). He also loves to attend Trivia Night on Fridays at the new ILA Learning Centre. ILA's innovative Makerspace has helped him discover opportunities to learn about coding and how to construct and modify the design of a robot. He notes that ILA's FLL sessions have opened his eyes to the vast world of robotics.

Obed noted: *"Imhotep has intensified... my interest in STEM...and has made me become more inquisitive and successful in... science and math. My mentors... have empowered me and supported me... Because of my participation in Imhotep... my grades in science and math were exceptionally high this past semester...I was able to meet some faculty and staff at Dalhousie University and receive positive feedback on my public speaking skills... I was able to meet more people in the African Nova Scotian community outside of my inner circle."*

Obed is an active member in his community at large. He participates in the Pathfinders program, camping and volunteering. He also plays piano and sings in the Mass Sanctuary Choir at Halifax SDA Church, all while earning honors in school. Obed's career goal is to become a university professor and because of Imhotep's Legacy Academy, he feels that dream is not far out of reach.



Monique Wright is a grade 12 student at Prince Andrew High School and has been involved with ILA's tutoring program for three years. She joined ILA seeking support with her high school math and science courses, as other tutoring options were relatively expensive. ILA Tutors helped explain course material in a way that worked for Monique, helping her to improve her grades. She now credits ILA for helping her discover a love of math and science and pushing her to use her mind in new ways.

Monique noted: *"Throughout... my grade 10–12 experience I have come to value a lot from ILA. I [met] some of my really close friends because of ILA [and] the Tutors have helped me so much... Tutors are patient, understanding and try the best they can in making sure I get the topic I had trouble with. Some Tutors, even when they are not scheduled in and I needed help; would try to find a way to help me... ILA workshops build my character in speaking out more and build my knowledge in... math and science... Chemistry is also interesting because... the existence of life is based on chemical reactions."*

Since joining ILA, Monique has challenged herself in her academic courses, which she needs to attend university and fulfill her career aspirations of becoming a nurse. She has spoken about the importance of financial supports, such as the ILA-TD Opportunity Scholarship, as she says, "many people don't go into post-secondary education because they cannot afford the price of tuition." Monique knows her choice to attend university will be well worth the investment.



OUTREACH AND PARTNERSHIPS

During the school year, ILA was determined to reach ANS learners on a broader scale and implemented a strategy to deliver STEM activities at schools and centers across Nova Scotia. ILA engaged students in STEM activities in over 30 schools across Nova Scotia. Sessions at Brookhouse Elementary School and Ellenville Junior High School ran on a bi-weekly basis from November to June during school hours.





ILA Staff, Summer Program Developers, and volunteers from the University of Guelph (seated: far left and second from right)

SUMMER PROGRAMS

During summer 2019, with funding support from the Office of African Nova Scotian Affairs (ANSA), ILA hired an African Nova Scotian (ANS) Science Outreach Coordinator to oversee our outreach initiative and plan a strategy to reach more ANS learners. ILA once again partnered with the African Canadian Service Branch (ACSB) to deliver STEM activities to ANS elementary and junior high school students at their Summer Scholar Program camps across the province. ILA hired four part-time Mentors to travel across Nova Scotia with our Program Manager and ANS Science Outreach Coordinator to engage students with Do-It-Yourself (DIY) drone and rocket activities. These activities taught participants how to follow instructions and the concepts of flight specific to rockets and drones. Also during the summer, we updated old and created new STEM activities to maintain the

relevancy of our programs; ILA is proud to have hired six full-time summer staff for this purpose with partial support of the Cooperative Education Incentive program and the Canada Summer Jobs Program. The Summer Developers also created new ASP videos that can be found on ILA's YouTube channel; these videos may be referenced by students and Mentors regardless of geographic location. As well, ILA hosted two students (Judy Snagg and Laxmi Singh) from the University of Guelph who, through their *Project Serve* experiential learning program, volunteered their time to assist with ILA operations. The Guelph students travelled to Halifax to connect with African Nova Scotian community organizations through volunteer assignments and to learn more about African Nova Scotian communities and their history.



Imhotep's Learning Community (ILC) students during the Black History Month Trivia Night event

FIELD TRIPS AND COLLABORATIONS

On Saturday, March 30, 2019, ILA partnered with the Delmore “Buddy” Daye Learning Institute (DBDLI) to host our first-ever, **“Black Excellence in STEM Conference: A One-Day Scholars Event for Faculty, Students and Industry Professionals”** at the Discovery Centre. This event brought together STEM students and academics across Canada to discuss:

1. The contributions of Black scientists to STEM
2. Strategies to help the next generation navigate their STEM careers
3. How best to foster the next generation of African-Canadian STEM professionals, including mentorship.

The overall purpose of the Conference was to positively contribute to the educational and career development of African Canadians in STEM.

Dr. Simon Gebremeskel, an immunology specialist at STEMCELL Technologies, Dalhousie University Killam Laureate, and winner of the 2017 Lindau Award, was the keynote speaker for the Conference. His presentation elicited positive comments such as: “Great presentation; very inspirational” and “More personal stories like Dr. Simon’s would be interesting.” Attendees also noted that the Conference “should continue in years to come”; that “there’s a need to involve schools early on with STEM...”, and that it would be beneficial to have STEM professionals or proselytizers “come into the Black communities and work with Black youth.” Other conference sessions included: (1) Scholarship of Integration — Health and the African Canadian Community, led by Dr. Ingrid Waldron, Dr. Wilber Menéndez Sánchez, and Dr. Barb Hamilton-Hinch (2) Scholarship of Discovery — Fundamental



Speakers at the 2019 Black Excellence in STEM Conference. From top left to bottom right: Sidney Idemudia (Host); Speakers – Dr. Simon Gebremeskel, Dr. J.Pemberton Cyrus, Dr. Rita Orji, Dr. George Frempong, Dr. Wilber Menéndez Sánchez, Dr. Barb Hamilton-Hinch, Dr. Ingrid Waldron, Dr. Marlene Ruck-Simmonds, Dr. Kevin Hewitt (not in photo); Student Presenters - Jennifer Kpolu, Tarmy Abbot, Ogheneruemu Ememoh, Ikeoluwa Adebola Bello

Research, led by Dr. Kevin Hewitt, Dr. J. Pemberton Cyrus, and Dr. Rita Orji (3) Scholarship of Teaching—Education and the African Canadian Community, led by Dr. Marlene Ruck-Simmonds and Dr. George Frempong, and (4) Student Research Poster Presentations led by Tarmy Abbot, Ikeoluwa Adebola Bello, Ogheneruemu Ememoh, and Jennifer Kpolu. ILA Mentors chaperoned student-participants at the Conference. Students benefitted from hands-on science activities, had a tour of the Discovery Centre, attended the keynote presentation and the Student Research Poster Presentations, and experienced the *Our Place in Space* live star show in the Dome Theatre.

Students participating in the Virtual School Program met at the Learning Centre every Friday evening for the STEM Trivia Quiz. Participating students were always enthusiastic for the

friendly competition and for the opportunity to be crowned the STEM Trivia champion. ILA distributed prizes to each weekly champion and at the end of the academic year, overall prizes were awarded to four deserving winners. One of the winners was given a ticket to attend a two-week SuperNOVA summer camp, courtesy of SuperNOVA at Dalhousie University. The other three winners were offered a field trip to the Fundy Geological Museum in Parrsboro, NS—two of whom were able to attend, chaperoned by ILA's Program Manager. The Fundy trip provided a rich learning experience on subjects including: tidal flow and how it affects what minerals are observed at low and high tide, mineral differentiation, excavating and separating fossils from organic debris, and the rich history of Indigenous inhabitants in the region.



After-School Program students demonstrate the making of slime at the 2019 Annual Closing Ceremony

Also this year, ILA collaborated with the Black Educators Association to deliver a STEM activity , at least once, to each of their Cultural Academic Enrichment Program (CAEP) sites across Nova Scotia. ILA's Program Manager conducted a Science Magic Show at the following sites: Bell Park Academic Centre, Ward 1 Recreation Centre, Saint Andrew Junior School, Aldershot Elementary School, Upper Hammonds Plains Community Centre, and Menelik Community Centre.

ILA worked in partnership with SuperNOVA to deliver a two-day rocket activity at their camp in East Preston. Throughout the program year ILA collaborated with other organizations to deliver STEM activities and we permitted the use of the ILA

Makerspace to internal departments and external organizations to operate their programs. ILA delivered STEM programs to students participating in the following programs: *Generation One Leadership Initiative (G1LI)*, *Promoting Leadership in health for African Nova Scotians (PLANS)*, *Shad Canada*, Auburn Drive High School's *Africentric Math Cohort*, and the *Global Humanitarian Initiative Association*. The ILA Makerspace was also used weekly by the *I Am Potential* organization to deliver their science activities to students from North-End Halifax. *I Am Potential* connects diverse youth from North-End Halifax with on-campus university- and college-student volunteers for recreation, a meal, and fun hands-on learning projects.

DID YOU KNOW?

Since the establishment of the ILA-TD Opportunity Scholarship in 2011, 21 secondary school students have enrolled at Dalhousie University and have received funds totalling \$127,500. Another eight have been promised \$146,000 in scholarship funding should they attend Dalhousie University.



After-School Program poster display

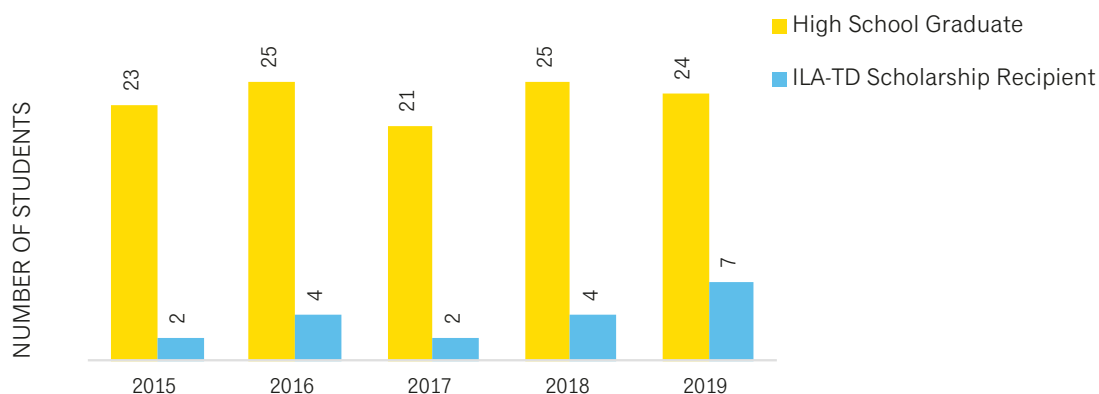


Guest Speaker Dr. K. Renée Horton

CLOSING CEREMONY

On May 18, 2019, ILA celebrated our 16th year of engaging African Nova Scotian learners by recognizing our participants, Mentors, staff, funders, Board of Directors, and other stakeholders through our Annual Closing Ceremony. This year's event was held in conjunction with and was sponsored in part by NSERC's Science Odyssey, the nation's largest celebration for STEM. The ceremony was held in the Irving Oil Auditorium of the new Richard Murray Design Building on Dalhousie University's Sexton campus. We were delighted to have Mr. Andy Fillmore, Member of Parliament (Halifax) and the Honorable Tony Ince, Minister of African Nova Scotian Affairs, provide heartfelt opening remarks and greetings. This year's dynamic guest speaker was the incomparable Dr. K. Renee Horton, author and engineer. Dr. Horton, a native of Baton Rouge, Louisiana, is a Space Launch System (SLS) Quality Engineer at NASA's Michoud Assembly Facility, a fellow of the National Association of Black Physicists, the founder of *Unapologetically Being Inc.*, and author of the "Dr. H Explores" children's book series. In 2019, Dr. Horton was featured in the PBS NOVA series episode "Rise of the Rockets", and she was also named *Louisianian of the Year*. Her primary message to participants was to "Persist in doing what you want to do...when you find your intersection between your talent and your passion, you find your true happiness." Dr. Horton spoke of her journey and triumph in obtaining her engineering degree despite the concurrent challenge of motherhood and a hearing impairment. During the ceremony, scholarship recipients were recognized, both *Students of the Year* and *Mentors of the Year* were acknowledged, and this year, for the first time, graduating participants and mentors were presented with Imhotep-branded Kente cloth sashes. The ceremony ended with closing remarks from ILA President, Dr. J. Pemberton Cyrus, and a reception followed.

Figure 2: Number of ILA participants graduating high school and number of participants graduating with an ILA-TD Scholarship





ILA-TD Opportunity Scholarship awardees from the left: Carmahn McCalla, Mourisia Campbell, Eve Wedderburn, Oluwatomisin "Tomi" Akinkunmi, Rachel Lavers, Tjasa Allen, Emtenan Al-Taher, Monique Wright, Kareem El-Beshbeeshy, Akili Cyrus

AWARDS AND RECOGNITION

ILA-TD OPPORTUNITY SCHOLARSHIPS

This year, we awarded eight new **ILA-TD Opportunity Scholarships**. The ILA-TD Opportunity Scholarship, a four-year renewable scholarship valued at up to \$5,000, is payable to students upon enrolment in a STEM-related undergraduate program at Dalhousie University. The amount of the scholarship awarded depends upon the student's grade; the amount accumulates for every year the student participates in an ILA program. For the 2018/19 program year, ILA incremented seven promise scholarships for secondary school students and renewed eight ILA-TD Opportunity Scholarship payments for university scholars who are currently attending Dalhousie University and are enrolled in STEM-related studies. Also, seven secondary school awardees were expected to enter Dalhousie University in the fall of 2019 to pursue studies in the fields of Nursing, Science, Computer Science, and Engineering.

2018–19 ILA-TD Opportunity Scholars

Student Name	School/Grade	Amount Awarded
Oluwatomisin "Tomi" Akinkunmi	Charles P. Allen High School, Gr. 12	\$1,000
Branden Thomson-White	Citadel High School, Gr. 12	\$1,000
Monique Wright	Prince Andrew High School, Gr. 12	\$2,000
Aisha Yaffa	Ihsan Academy, Gr. 12	\$2,000
Tjasa Allen	Park West Junior High School, Gr. 8	\$500 promise
Emtenan Al-Taher	Ihsan Academy, Gr. 9	\$500 promise
Obed Harun	Rocky Lake Junior High School, Gr. 7	\$500 promise
Rachel Lavers	Truro Junior High School, Gr. 9	\$500 promise

STUDENTS OF THE YEAR

The *Student of the Year* award is another way of honouring ILA's exceptional student-participants. This award is designated for students who have demonstrated (1) exemplary attendance (online or in-person), (2) an overall positive attitude, and (3) a commitment to the program and a love for STEM subjects. This year five students were given awards and gifts as **Students of the Year**, with one given the appellation of *Overall Student of the Year* for her laudatory participation in the After-School Program during the 2018/19 year.

2018–19 Students of the Year

Student Name	School/Grade	ILA Program
Demilola Adebayo	Oxford Junior High School, Gr. 9	FIRST LEGO League Program
Feranmi Adebayo	Oxford Junior High School, Gr. 7	After-School Program
Aaron Metzger	Burton Ettinger School, Gr. 5	After-School Program (ILA Makerspace)
Saahir Monowar	Halifax West High School, Gr. 11	iCode+ Program

2018–19 Overall Student of the Year

Jilahni Gosman-Odinga	Northeast Kings Education Centre, Gr. 10	After-School Program
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2018–19 Mentors of the Year

Student Name	University / Field of Study	Site Managed
Shandria Evans	Acadia University / Bachelor of Accounting and Finance	After-School Program at the Northeast Kings Education Centre in Canning, NS
Brenda Wambui	University of Kings College and Dalhousie University / Bachelor of Economics with Minor in Law, Justice and Society	After-School Program at Oxford Junior High School in Halifax, NS, at the ILA Makerspace, and Outreach at Ellenvale Junior High School and Brookhouse Elementary School



Students of the Year with Agassou “Augy” Jones (ILA Board Member), from left: Saahir Monowar, Aaron Metzger, Feranmi Adebayo, Demilola Adebayo, Jilahni Gosman Odinga



Mentors of the Year with Adrienne Glasgow-Slawter (ILA Board Member—center), from left: Shandria Evans, Brenda Wambui



ILA President, Dr. J. Pemberton Cyrus with graduating staff and participants: Juliette Egbulefu, Olashile Adebimpe, Brenda Wambui, Shandria Evans; Tomi Akinkunmi, Carmahn McCalla, Monique Wright

PROGRAM SUSTAINABILITY

ILA's state-of-the-art Learning Centre/Office space and Makerspace workshop have provided much-needed facilities to accommodate ILA's existing programs and planned growth. The Makerspace houses a 3D printer room, soldering stations, tool cabinets, workstations, and ILA science activity bins. The construction of both spaces was funded by the Post-Secondary Institutions Strategic Investment Fund (SIF) and Dalhousie University.

ILA programs have benefitted from consistent financial support from the African Canadian Services Branch (ACSB) and Dalhousie University departments and faculties. Their generous funding has ensured the longevity of our operations. During the 2018/19 program year, we received new funding support from the Halifax Youth Foundation (a private trust), the Department of Communities, Culture and Heritage (through a Building Vibrant Communities grant) and through an NSERC's PromoScience Supplements for Collaboration grant. Funding received from the latter and the Delmore "Buddy" Daye Learning Institute (DBDLI) enabled the execution of the **2019 Black Excellence in STEM Conference**. Based on feedback received from attendees the Conference should be an annual event.

With the help of federal (Canada Summer Jobs) and provincial funding (ACSB and CEI), we hired five Science Activity Developers (two of whom were Co-op students) and one Science Video Developer. The summer students reviewed and upgraded ILA's existing After-School Program activities,

and developed new Makerspace activities, new math and science activities, and new After-School Program science videos that have been uploaded to ILA's YouTube channel.

Our partnerships continue to be vital to the maintenance, growth, and development of ILA programs. ILA-TD Opportunity Scholarships and Summer Student Research Scholarships (SSRS) provide much-needed financial support to ILA participants and to university students of African heritage, respectively. Interest earned from a generous \$1 million endowment provided by TD Bank to Dalhousie University funds the ILA-TD Opportunity Scholarships, and the SSRS incentives are supported through partnerships between ILA and Dalhousie University STEM-related faculties. During 2018/19, ILA was honored to be gifted \$2,500 in Ozobot's by Dillon Consulting Limited. These unique bots, in addition to the RBC iCode+ Program and the *FIRST* LEGO League Program, offer yet another resource through which to teach hands-on coding to ILA participants.

To reach more participants, especially connecting with youth in the communities in which they reside, ILA is developing and implementing an outreach and communication plan to do so effectively and efficiently. As ILA grows, the need for more full-time, specialized staffing is a necessity to ensure students are being reached and served in a way that honors who they are and that accurately reflects what ILA has to offer.

GOVERNANCE

ILA is governed by a Board of Directors who volunteer their time for the greater good of the organization's mandate.

ILA'S BOARD OF DIRECTORS

Dr. J. Pemberton Cyrus (President/Chair)

Associate Vice President Academic (Acting),
Dalhousie University

Dr. Claver Diallo

Associate Professor, Department of Industrial
Engineering, Dalhousie University

Mr. Darren Googoo

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School of Health and Human Performance,
Dalhousie University

Mr. Agassou (Augy) Jones

Manager, Student Experience,
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Ms. Brenda Riley

Parent Representative

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Black Student Advisor, Dalhousie University

Dr. Keith Taylor

Professor, Mathematics & Statistics,
Dalhousie University

Adrienne Glasgow-Slawter

Guidance Counsellor, Prince Andrew High School,
Halifax Regional Centre for Education

Dr. Wilber Menéndez Sánchez

Faculty, Nova Scotia Community College,
Academics & Career Connections

FUTURE PLANS

ILA will hold an Annual General Meeting during the 2019/20 program year.

ILA's strategic goals for growth include: i) delivering programs at the elementary level, initially to grade 6 only, but ultimately to grades 4-6; ii) incorporating more junior high schools in our programs, increasing our ASP site coverage from 7 to 10 in the short-term, and to 15 over five years; iii) increasing coverage of the introductory coding program to high school learners to 5 sites and 50 students over 5 years; iv) expanding programs at the university level: increasing the number of Summer Student Research Scholarships from 5 to 11; increasing the number Opportunity Scholarships awarded per year; nurturing the growth of the ILA Learning Community (ILC); cultivating an ILA Volunteer program for first-year students; v) continued development of innovative experiential activities and review and revision of existing activities; and piloting new programs each year.

It is a pleasure to serve our community, providing programs intending to spark an interest or a passion in STEM-based vocations, toward the recognition of individual greatness and ultimately for the achievement of personal economic stability and freedom of our youth. We know that healthy partnerships are key to the continued attainment of our goals, and we strive to hold true to our values of integrity, excellence, success, creativity, respect, Afrocentricity, collaboration, and commitment. We thank our stakeholders for expecting the best of us and we appreciate the confidence that our participants and their parents/guardians have placed in our ability to deliver to our best.

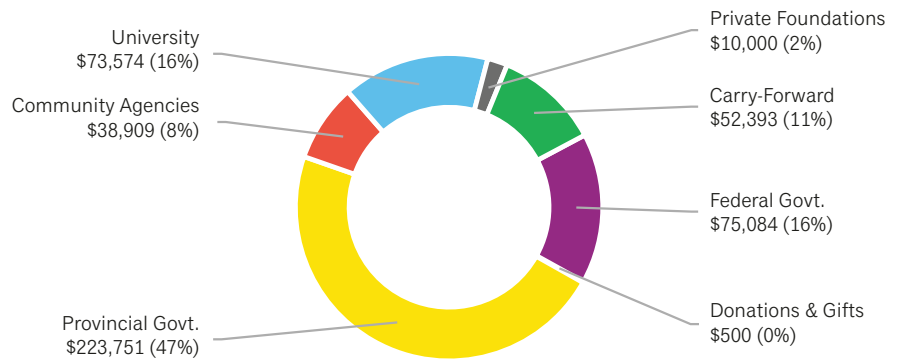
FINANCIAL SUMMARY

ILA's financial transactions are processed on a cash basis through the Dalhousie University financial system (BANNER) and are tracked through Special Purpose Funds. The financial statements of Dalhousie University are subject to an annual audit by an external accounting firm; reporting to the audit committee of the Board of Governors.

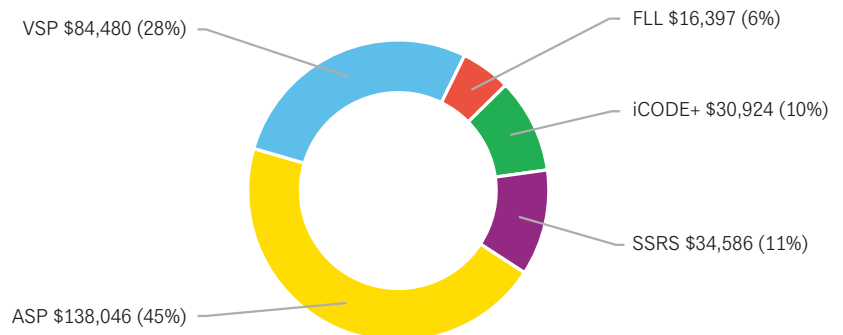
Dalhousie does not undertake to provide external audits of specific research and special purpose projects unless it is expressly required by the contract and specific funds are provided for this purpose. The federal Tri-Council Agency and other funding agencies periodically review Dalhousie University research accounts.

Dalhousie University maintains extensive financial policies which in conjunction with the Internal Audit Department leads to a strong control environment.

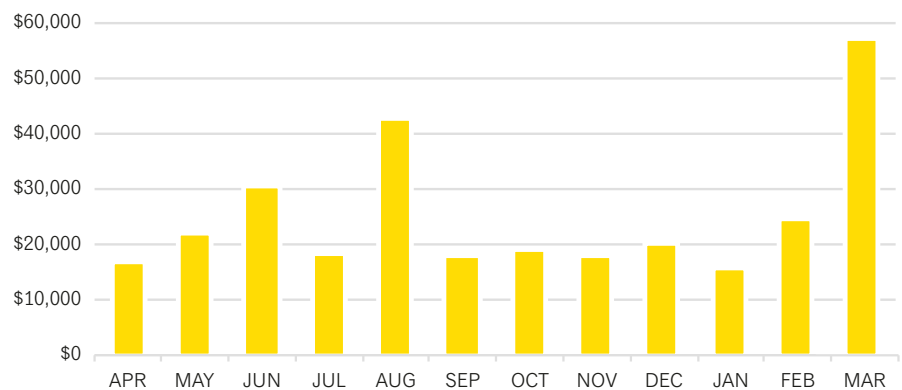
ILA 2018/19 REVENUE SOURCES



ILA 2018/19 EXPENSES BY PROGRAM



ILA 2018/19 EXPENSES BY MONTH



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The Westin Nova Scotian Hotel

To provide financial support please contact Terri Mann at terri.mann@dal.ca

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