



2020/21 ANNUAL REPORT

CELEBRATING BLACK EXCELLENCE IN STEM



MESSAGE FROM THE CHAIR



The 2020-21 year was one like no other in my lifetime. The whole program year operated under pandemic conditions. At the beginning of the COVID-19 pandemic, Imhotep's Legacy Academy (ILA) quickly shifted its focus from in-person to virtual operation. We established a logistics center, shipped kits

to students throughout the school year, and tried to recreate as much of the hands-on STEM experience as we could in a virtual world. Our students adapted and were resilient. Overall, we were able to reach over 1100 students of African descent, and kudos go to the strong ILA full-time staff and mentors who soldiered on through what could only be described as the "fog of war". We have been fortunate to have our funders and supporters rally to help throughout the pandemic – Thank You! We look forward to a return to in-person operation, where we can again do STEM hands-on with our students.

J. Pemberton Cyrus, PhD, PEng, FEC
President, Imhotep's Legacy Academy

MESSAGE FROM THE EXECUTIVE DIRECTOR



This was a year of uncertainty for many organizations across the globe, including Imhotep's Legacy Academy (ILA). Like others, we were able to adapt to the changes of reality and ensured that ILA participants received quality service.

This was the first time delivering all our programs virtually throughout the academic year, and it was a learning opportunity and an opportunity to grow. We learned that there are students that enjoy our virtual sessions, as they can still participate hands-on with ILA's Mentors virtually. This gave us a blueprint for expanding our programs to students in rural areas. With the addition of this complementary alternative to engage students that are far away from us, we intend to continue our virtual sessions.

We are very thankful to our staff, Mentors, Board of Directors, and stakeholders for constantly showing up to support learners of African descent in STEM studies. Your dedication is crucial to our work, and it helps ILA succeed year after year.

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

EXECUTIVE SUMMARY

In our 2020/21 program year, the impact of COVID-19 encouraged us to serve the full complement of our programs virtually. We kicked off the program year in the fall of 2020 by hosting a virtual professional development (PD) session for all our staff and trained them in effective program delivery.

Despite the challenges of transitioning all programs, events, and activities to a fully virtual format, we were able to maintain very good engagement with learners of African descent across the province. We are proud to have reached over 1,239 students virtually, during a time of uncertainty and global turmoil. Even though we saw less interest from students to attend virtual sessions due to problems like screen fatigue, lack of tech support and low interest to be in a virtual environment, our Virtual School tutoring Program (VSP) was highly utilized by learners of African descent, and we experienced growth. There was a decline in our After School Program and FIRST LEGO League program. Our ILA Coding program

had a 10% increase from its predecessor, the RBC iCode+ program. Our virtual STEM Quiz Tournament was highly anticipated by students and participation doubled from the previous year. We focused our priorities on our secondary school programs – ensuring we were fully equipped with the right tools and capacity to deliver our programs virtually. Only two university students were awarded Summer Student Research Scholarships (SSRS) during summer 2020 and, unlike prior years, we did not have a summer research poster presentation in fall 2020. We were, however, able to award four Summer Student Research Scholarships (SSRS) this year (summer 2021). Our Imhotep's Learning Community was paused for a portion of 2020/21 but resumed activity later in the year. Along the way, we collaborated with other organizations and added to our scope of program offerings. This was a tough year, but it taught us many things and we intend to use that knowledge to make improvements in our delivery.

ILA BACKGROUND

As a dynamic and responsive organization, Imhotep's Legacy Academy (ILA) was able to transition all of its core programs and initiatives to full online delivery in response to COVID-19 restrictions that forced the closure of Dalhousie University and some secondary schools across Nova Scotia during the 2020-21 program year.

ILA's overarching mission is to support the success of learners of African descent in STEM by promoting the skills and attitudes necessary for academic and career achievement. ILA aims to increase the representation of persons of African descent in STEM studies and in STEM careers and accomplishes this by hiring university students of African descent to engage secondary school learners of African descent in dynamic, free programs that are curriculum-based and culturally relevant.

ILA is a university-community partnership that serves learners of African descent in grades 6 to 12 across Nova Scotia. In operation since 2003, ILA has built an impressive record, reaching over 10,000 students since inception, currently supporting 14 students with university scholarships, and employing 35+ university students every year to develop and deliver its programs.

For junior high school students, ILA's After-School Program provides opportunities to investigate hands-on science experiments, and ILA's FIRST LEGO League

Program exposes students to coding, robotic design, and research. For high school students, ILA's Virtual School Program provides tutoring assistance in math, chemistry, biology, and physics, while the ILA Coding Program provides instruction in foundational to intermediate-level programming, i.e., Arduino, web development, and VBA for Excel. Over the last three years, ILA's STEM Quiz Competition has become increasingly popular with junior high and high school students alike.

Secondary school participants in ILA's programs are eligible to apply for a \$5,000, renewable ILA-TD Opportunity Scholarship toward STEM studies at Dalhousie University (TD Bank donated a \$1 million endowment to establish this scholarship). For university students of African descent, ILA offers paid summer development internships as well as Summer Student Research Scholarships to enable students to conduct specialized research in their respective fields, under the guidance of Dalhousie University faculty members. ILA has partnered with Dalhousie University's Faculties of Medicine (\$5,000), Computer Science, Engineering, Health, and Science (\$6,500 each) to provide these research opportunities. During the summer, ILA operates projects to engage Black youth, such as rocket- and drone-building, and STEM reading.

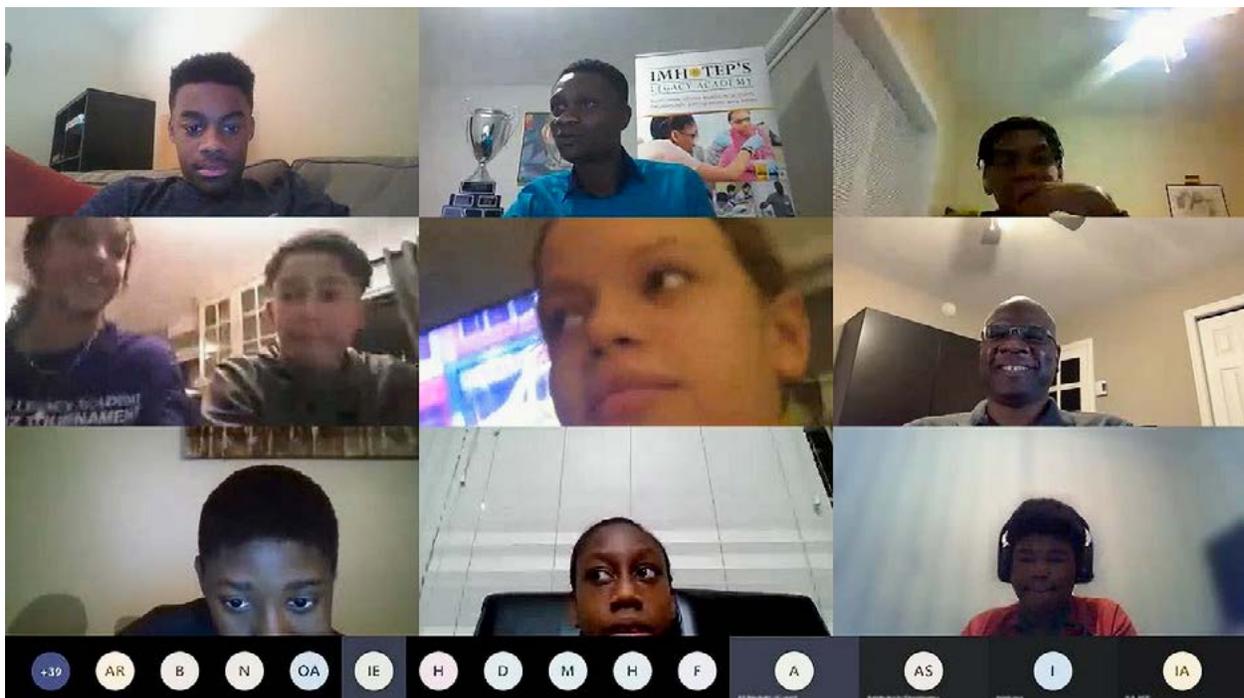


Figure 1: 2020/21 annual Quiz tournament held virtually

PROGRAM OVERVIEW

VIRTUAL SCHOOL TUTORING PROGRAM

There was an increase in demand for tutoring this year and we were ready to serve students. This program has been offered virtually to students since its inception and has had time to grow in popularity. The process is very straightforward – students are paired with a Tutor, both student and Tutor connect virtually (via Skype or Microsoft Teams), and Tutors provide support in STEM

subjects. We had various workshops (before high school mid-term and final exams) to support students in a group or one-on-one setting. After the final exams in June 2021, we continued to provide tutoring support to students on an as-requested basis. During the school year, students participated in our Friday night trivia night sessions to answer STEM related questions and compete for prizes.

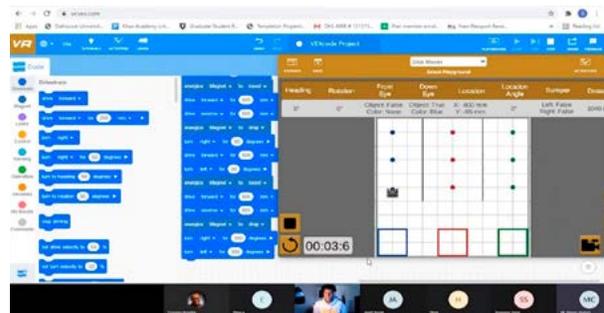
AFTER SCHOOL PROGRAM (ASP)

This year, we delivered the ASP virtually by grade level across Nova Scotia. This enabled students from various schools and locations to connect with each other and with our Mentors, according to their grade level. We hired a Logistics Officer to prepare and ship

STEM activity kits to registered students and to our Mentors. This enabled each to maintain hands-on engagement from their homes. Despite a lower number of participants, students were highly motivated and enjoyed the activities.

FIRST LEGO LEAGUE PROGRAM (FLL)

Transitioning this program to an online format was a difficult task. To ensure the safety of our students, we declined to participate in the FLL competition this year, which would have required in-person meetings for effective practice. The FLL program requires teamwork from participants to code LEGO Mindstorms robots to complete certain tasks on a thematic mat (there is a different theme each year). We used simulations to model the competition tasks with the students during online sessions. We were unable to provide individual FLL kits and mats to students for their home use; however, students worked well with the online simulations. Everyone looks forward to resuming in-person sessions when it is safe to do so.



ILA CODING

After the conclusion of our coding partnership with Business is Jammin' (BIJ), we started the ILA Coding Program to deliver computer programming activities. This year, there was an improvement in the number of

participants. Our Mentors focused on teaching students how to build a website using HTML. During the program, students created multiple web pages and by the end of the year had coded their own websites.

UNIVERSITY PROGRAMS

The 2019/20 Summer Student Research Scholarship (SSRS) candidates were invited to present poster presentations in 2021. During 2020/21 we awarded Summer Student Research Scholarships to students in the Faculties of Science, Health, Medicine, and Computer Science. We will increase future marketing in Engineering to ensure that more students are aware of this opportunity.

Most of the executive members of the student-led

Imhotep's Learning Community (ILC) graduated and their terms of service ended. Since university students were not on campus, filling the ILC executive seats was delayed until 2021. The new ILC executive team will apply lessons learned from prior years and from the challenges of COVID-19 to plan the execution of events and activities for the 2021/22 program year. A seat on the Board of Directors was created for a member of ILC to represent the university students' voices.

2020/21 PROGRAM STATISTICS

Figure 2: Distribution of program and outreach participation (September to August).

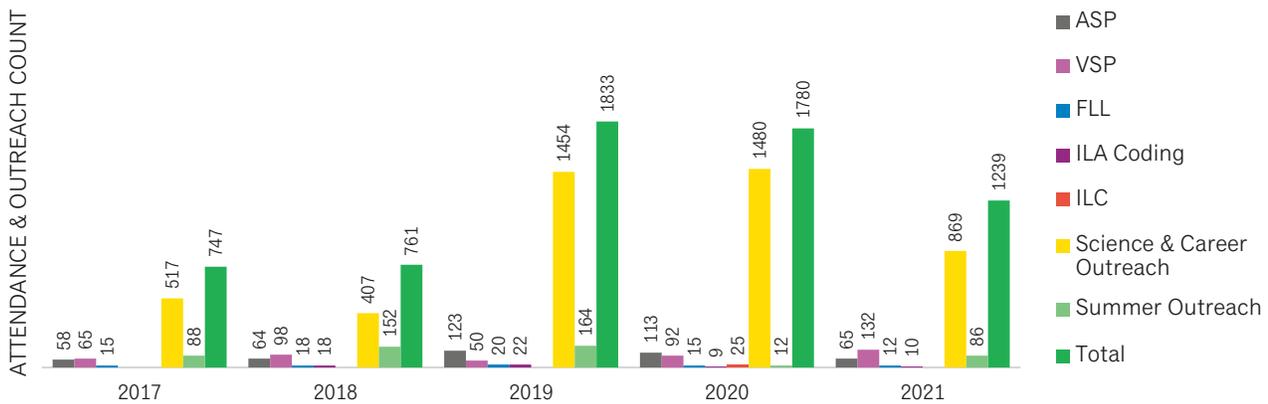
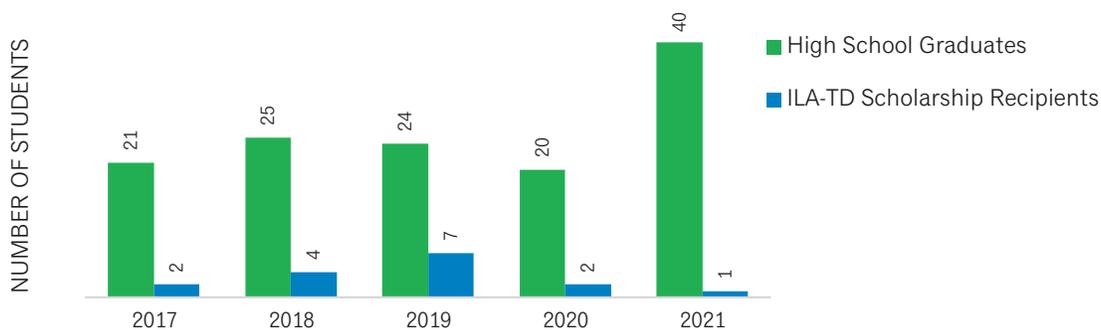


Figure 3: Number of students with ILA-TD Opportunity Scholarships (promised and awarded).



OTHER PROGRAMS, ACTIVITIES, AND EVENTS

Given our bold move to go completely virtual this year with our programs, our events also had to be virtual. Our **STEM Quiz Tournament** took the lead as our first virtual event in the fall of 2020. Due to the traction of this event from previous years and the super prizes offered, this tournament was well attended **with 61 students competing in different teams**. The winners of this event and the Most Valuable Player won individual iPads to help with their studies.

RANKING	PRIZE AND AWARD	TEAM NAME	PARTICIPANTS
1st place (Winners)	5 iPads 5 gold medals Names engraved on quiz tournament cup	Science Innovators	Eve W. Demeco B. Ibrahim Y. Abubakar Y. Joshua P.
2nd place	5 silver medals	Ihsan Academy	Assmaa Z. Faheemah M. Karema A. Fareedah M. Ranim E.
3rd place	4 bronze medals	Black Dragons	Aaliyah C. April L. Xavier P. Jerry G.
Most Valuable Player (MVP)	iPad MVP medal Name engraved on quiz tournament cup	Golden Sharks	Elsa-Kaze T.

Other teams in alphabetic order

TEAM NAME	NUMBER OF PARTICIPANTS
Active 5	5
Black Girl Magic	5
E-Smart	4
G1LI Hackers	5
G1LI Rapid Panthers	5
G1LI Wiz Innovators	5
Golden Sharks	5
Horton High School	5
Legacy Leavers	5
Team IQ	5

24 Schools represented during ILA's 2020 STEM QUIZ Tournament

ELEMENTARY SCHOOLS	JUNIOR HIGH SCHOOLS	SENIOR HIGH SCHOOLS
Fairview Heights Elementary	Dartmouth South Academy	Charles P. Allen High
	Fairview Junior High	Citadel High
	Graham Creighton Junior High	Dartmouth High
	Harold T. Barrett Junior High	École Secondaire du Sommet
	Madeline Symonds Middle School	École Secondaire Mosaïque
	Malcolm Munroe Memorial Middle School	Halifax West High
	Oxford Junior High	Horton High School
	Park West School	Ihsan Academy
	Ridgecliff Middle School	Lockview High
	Rocky Lake Junior High	Prince Andrew High
	Sacred Heart School of Halifax	Sydney Academy
	Truro Junior High School	

We delivered **Science Shows** to students virtually across Nova Scotia as a means of teaching science and attracting learners of African descent to our weekly programs.

With the support of the French Programs and Services branch of the Department of Education and Early Childhood Development (EECD), we prepared to offer our **After School Program in French**. We translated some ASP materials and delivered the Science Show in French to recruit French students for our French ASP pilot that ran in the summer of 2021.

In March, we partnered with [PLANS](#) (Promoting Leadership in Health for African Nova Scotians), the Delmore “Buddy” Daye Learning Institute ([DBDLI](#)), and the Canadian Black Scientists Network ([CBSN](#)) to host the second annual **Black Excellence in STEM and Health (BESH) Symposium**. This event brought together STEM and Health scholars, university students, secondary school students and members of the African Canadian community to discuss Black achievements in STEM and Health, expose secondary school students to

Black STEM researchers and engage them in hands-on activities to deepen their understanding of STEM and health. A report on the BESH symposium can be found [here](#) on the ILA website.

In the Spring, we concluded our programs with the [Annual Closing Ceremony](#) to congratulate ILA participants and staff and to appreciate our sponsors, funders, and supporters. We announced ILA-TD Opportunity scholars and Summer Student Research scholars and awarded Students-of-the-Year and Mentors-of-the-Year. Despite being a virtual event, the Annual Closing Ceremony was enjoyed and attended by students, parents, staff, guest speakers and dignitaries. We welcomed remarks from the Member of Parliament (Halifax), Mr. Andy Fillmore, and the Honorable Tony Ince, Minister responsible for the Office of Equity and Anti-Racism Initiatives, Minister of African Nova Scotian Affairs, and Minister of Communications Nova Scotia. We had an impressive presentation and message from our guest speakers. Our first guest speaker, Dr. Ronke Olabisi, is a mechanical and biomedical engineer whose research involves modifying synthetic materials with



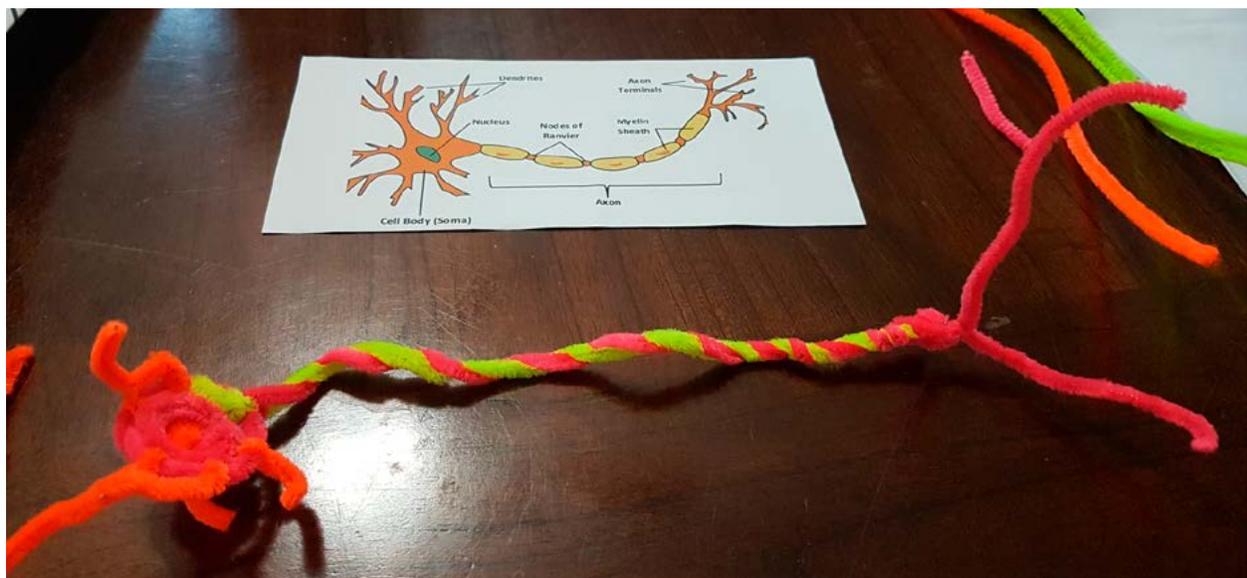
Figure 4: Rocket building with students from the Ummah Mosque in Halifax.

the natural, from small molecules to large proteins, to cells, in order to develop cell-responsive materials for tissue engineering and regenerative medicine. Our second guest speaker, Dr. Ernest Asante Korankye, is a former FLL coordinator with ILA in Truro who earned his PhD in Food Sciences from Dalhousie University. He is the Founder, President & CEO of the successful Asante Logistics Group which ships products across the globe.

Pemberton Cyrus, President of ILA, was a panelist in “Breaking Barriers to Education” at the National Black Canadians Summit 2021, on June 22, 2021, presented by the Michaelle Jean Foundation. During the summer months, we developed new activities to add to our

ASP catalogue and created new material for our STEM Quiz Tournament and hands-on climate activity based on the 2021 Science Literacy theme. We partnered with the African Canadian Service Branch (ACSB) to deliver sessions at their **Summer Scholar** camps across Nova Scotia. This year, we visited the Summer Scholar camps for African Nova Scotian learners in **Beechville, Antigonish, Lucasville and Digby** and delivered either our rocket-building activity or a STEM activity, in-person or remotely, depending on circumstances. ILA also delivered a rocket-building activity to 18 students attending a summer camp hosted by the Ummah Mosque in Halifax.

Figure 5 Neurons made from pipe cleaners as part of the STEM in a Box Camp.



PARTNERSHIPS AND COLLABORATIONS

ILA CCA MICRO CREDENTIAL

We partnered with Dal's Faculty of Open Learning & Career Development to offer micro credentials to ILA mentors. Through this partnership, ILA mentors can receive micro credentials for skills in 11 areas such as mentorship, leadership, ethics, time management, African Nova Scotian History and more.

DISCOVERY CENTRE DISCUSSION FOR COLLABORATION

ILA was invited by the [Discovery Centre](#) to film STEM activities for young learners, in English and French, to be used for television. ILA is excited about this collaboration with the Discovery Centre as it has the potential to reach more African Nova Scotians through a different medium.

SERVICE LEARNING

As in previous years, ILA served as a community partner with Dal's [Service Learning Program](#) for medical students. ILA provided two students from Dal's School of Medicine with an opportunity to support learners of African descent by developing a grade 9 STEM activity entitled "Brain Games – Introduction to the Brain and Nervous System". The objective of this activity includes understanding the basic anatomy of a neuron, using electric circuits to develop knowledge in physics and basic neurological circuitry, and using knowledge of the nervous system to understand leg and arm reflexes. This activity was quickly adopted, in collaboration with PLANS (Promoting Leadership in Health for African Nova Scotians) and Indigenous Health in Medicine ([IHIM](#)), to deliver a session with students from the WISE Acadia: WISE-in-a-BOX camp. More information about this session is at blogs.dal.ca/globalhealth/category/indigenous-health/.

ILA's Executive Director, Mr. Sidney Idemudia, joined Dr. Martin Tango, an Engineering professor at Acadia University, to give a presentation entitled "*Empowering ANS youth: the outreach model on development and delivery of STEM initiatives*". This presentation was part of a larger event called "*Black Perspectives in Ethics: An Interdisciplinary Conversation*" hosted by Rev. Dr. Marjorie Lewis, Acadia University Chaplain, on February 11, 2021. During this event, Dr. Tango and Mr. Idemudia communicated the importance of empowering African Nova Scotian youth through mentorship by other persons of African Heritage (similar to ILA's tri-mentoring

model). Dr. Tango is an assisting professor with ILA, serving as a mentor to university students who, in turn, mentor African Nova Scotian youth. As well, during the winter, Sidney shared information about ILA's programs with ANS parents during the Black Educators Association ([BEA](#))'s parent information session.

This year, ILA joined the [BIPOC tribe network platform](#), an entrepreneurship and Innovation hub for Black, Indigenous and People of Color (BIPOC). Through the BIPOC tribe network, ILA will expose its participants to new opportunities; in the pilot phase, it is currently being used by ILA's university students. ILA is collaborating with [Venture2Impact](#) to create a virtual platform for ILA's middle and high school participants to connect virtually, share ideas, attend program sessions like online tutoring, and for ILA to better learn about its participants. Venture2Impact (V2I) is an organization that helps communities around the world break the cycle of poverty. This project is underway, and still in its early stage of development. ILA and V2I have gathered information from stakeholders that is useful to its development. We are fundraising for this project and welcome new partners and funders.

At the start of the year, ILA joined in congratulating [Engineers Nova Scotia](#) as they celebrated their 100th anniversary. We recognized the engineering profession and engineers of African descent. The engineering profession is very important to our civic society as engineers help make our world a better place. Black engineers are inspirational to learners of African descent, who also wish to change the world. We interviewed Black engineers about their experiences—the video may be viewed on [ILA's YouTube Channel](#).

This summer 2021, we partnered with Canadian Center for Vaccinology (CCfV), PLANS, Health Association for African Canadians (HAAC) and professors from Universite Sainte Anne to develop hands-on activities to teach the science of viruses and vaccines to Nova Scotian youth of African descent. This **Encouraging Vaccination Confidence (EVC)** project is funded by a grant from the Natural Science and Engineering Research Council (NSERC). We held focus groups with Black youth and started the development of science activities. Over the Fall and into the winter, we will be presenting these activities at Nova Scotia schools.

CONCLUSION

This was a successful year, given the challenges of working remotely and delivering hands-on programs, events, and activities in a virtual environment. We have learned from this experience and plan to modify previous strategies and implement new ones. As we move into a new program year, we will offer our After School program in French to attract learners of African descent that attend French or French-immersion schools. Most importantly, we will offer a hybrid model of our programs by offering in-person and virtual programs to students. This will enable us to reach students who are physically accessible as well as those in remote areas of the province. To learn more about how we delivered our programs in a virtual environment, visit our [Imhotep's Legacy Academy YouTube channel](#). As we begin a new program year in the fall of 2021, we will need the support of community leaders, partners, and others to ensure that learners of African descent are provided with programs and activities that foster scientific thinking.

2020/21 STAFF

OFFICE STAFF: Sidney Idemudia, Exec. Director | Asher Gaskin, Program Manager | Haley Matthews, Outreach & Communications Officer | Destiny Beals, Program Assistant | Wanda Colley, Financial Administrator

VIRTUAL SCHOOL PROGRAM (VSP) TUTORS: Tarmy Abbot | Ikeoluwa Adebola Bello | Akili Cyrus | Leon Fearon | Cyerra Gibson | Mariam Hiba | Patrick Nnoka | Nour Obeid | Faidat Olatunbosun | Ariel Provo | Corey Sawyer | Jesimiel Ugbebor | Success Wokili

AFTER-SCHOOL PROGRAM (ASP): Coordinators: Faidat Olatunbosun | Kamy Roberge Carrington | Brenda Wambui | Success Wokili

Mentors: Rhandi Ferguson | Jasonique Moss | Seyitan Moritiwon | Ariel Provo | Nice Lesley Uwitonze | Kiara Williams

FIRST LEGO LEAGUE ROBOTICS (FLL) MENTORS: Jeffrey Lyn | Sungwoo Song | Jasiel Austin

ILA CODING PROGRAM (ICO): Olashile Adebimpe, Coordinator | Chiyedza Mugavazi, Mentor

STUDENT INTERNSHIP: Jeffrey Lyn, Marketing Specialist (Winter Co-op) | Jadesola Emmanuel, Marketing Specialist (Summer Co-op) | Bader Hajibi, Logistics Officer (Fall & Summer Co-op) | Joachim Mwebembezi, Logistics Officer (Winter Co-op), Joshua Tynes, Activity Developer (Summer Co-op), Jesimiel Ugbebor, Activity Developer (Summer Co-op)

BOARD OF DIRECTORS

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

Dr. J. Pemberton Cyrus (President/Chair), Head, Department of Industrial Engineering, Dalhousie University

Dr. Claver Diallo (Vice Chair), Professor, Department of Industrial Engineering, Dalhousie University

Dr. Claudette Bouman, Retired High School Educator

Mr. Darren Googoo, Director of Education, Membertou Band

Dr. Barbara Hamilton-Hinch (Treasurer), Associate Professor, School of Health and Human Performance; Assistant Vice Provost Equity and Inclusion, Dalhousie University

Dr. Timothy Bardouille (Secretary), Assistant Professor, Department of Physics & Atmospheric Science, Dalhousie University

Dr. Wilber Menéndez Sánchez, Faculty, Nova Scotia Community College, Academics & Career Connections

Patrick Nnoka, 5th year Chemical Engineering student and ILA Student representative

Dr. Rita Orji, Associate Professor, Faculty of Computer Science, Dalhousie University

Ms. Brenda Riley, Parent Representative

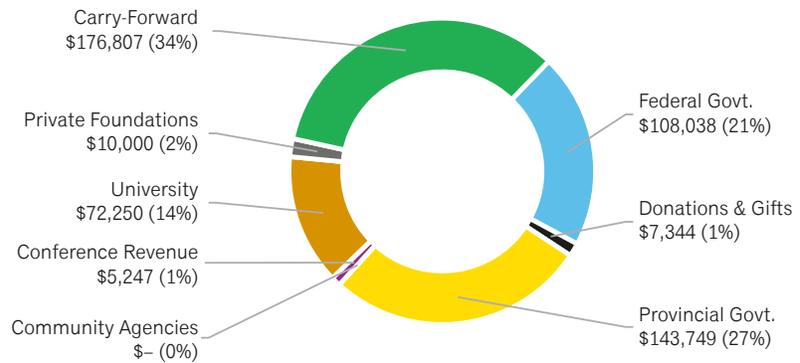
Ms. Oluronke Taiwo, Black Student Advisor, Dalhousie University

Ms. Sarah-Ann Upshaw, Program Manager, Promoting Leadership in health for African Nova Scotians (PLANS)

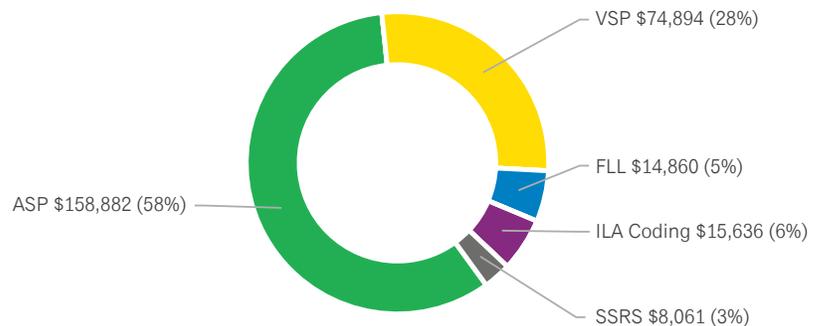
FINANCIAL SUMMARY

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 Agencies 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.

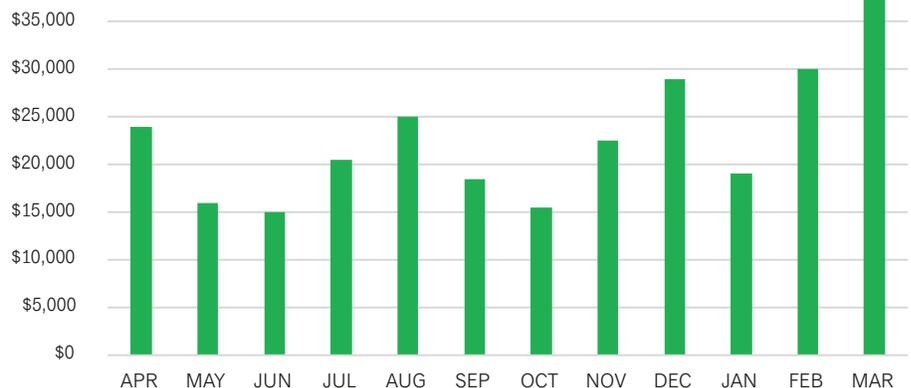
ILA 2020/21 REVENUE SOURCES



ILA 2020/21 EXPENSES BY PROGRAM



ILA 2020/21 EXPENSES BY MONTH



SPONSORS



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Dalhousie University, Registrar's Office
French Programs and Services Branch, DEECD
Saint Mary's University, Dean of Science Office
Space Science Telescope Institute (STScI)

FOR MORE INFORMATION CONTACT

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