

# Impact Report

2015 - 2021



Building Capacity in STEM through Outreach and Engagement



# CAPACITY BUILDING



*"There is no better way to acknowledge someone for their efforts than to entrust them".*

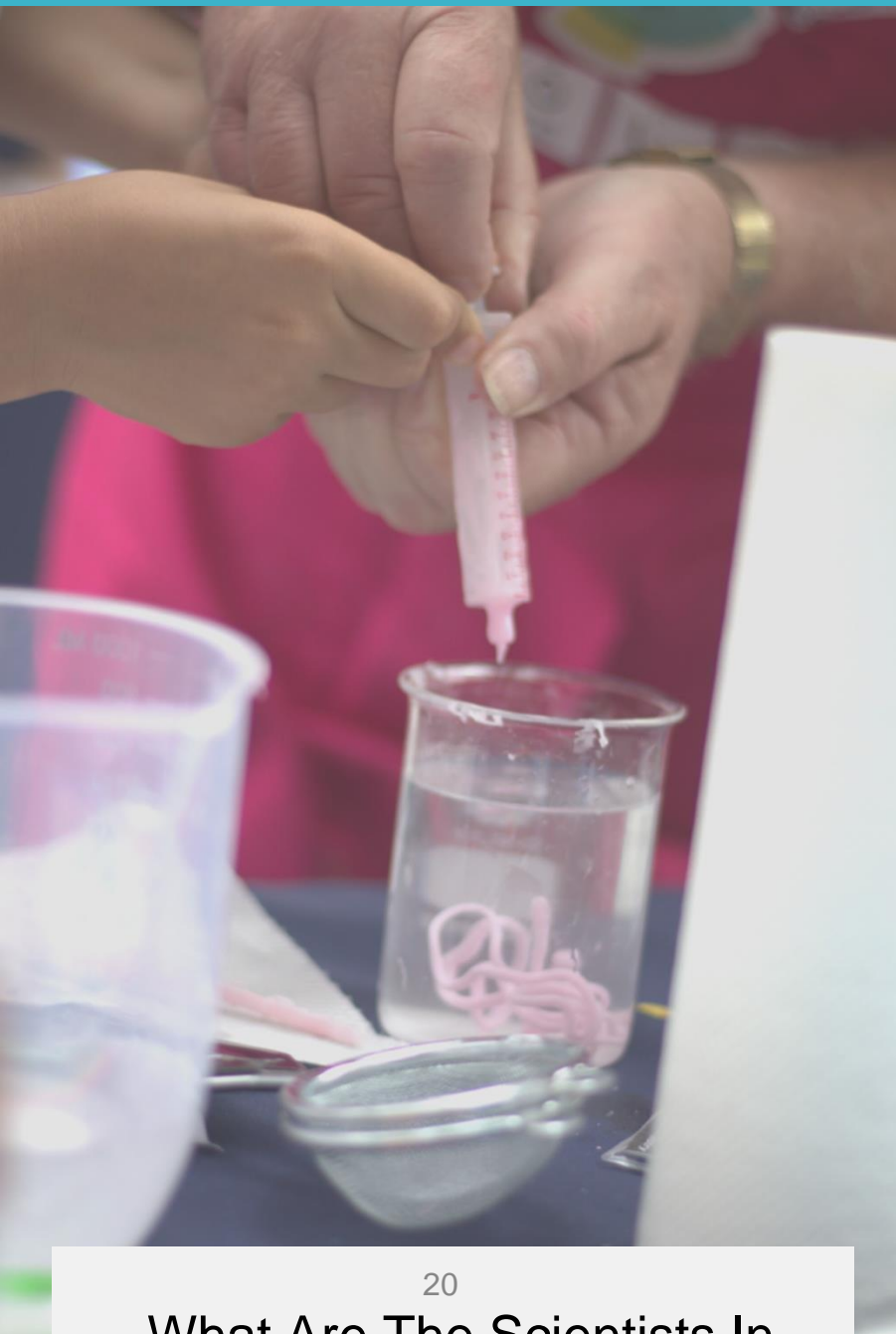
*Dr Thomas Tagoe*

# CONTENT

18  
BEYOND  
TRADITIONAL BOOKS

2  
NURTURING  
GIRLS IN STEM

9  
TEAM MEMBER  
SPOTLIGHT



- 5  
Director's Message
- 6  
Meet The Team
- 20  
Understanding Our Why
- 23  
Projects Overview
- 30  
Featured Blog
- 32  
Success Stories
- 35  
Evolution of Science Exhibition
- 40  
Financial Report
- 43  
Funders, Partners And  
Supporters
- 52  
Be A Part Of Our Story:

20

## What Are The Scientists In Ghana Doing?

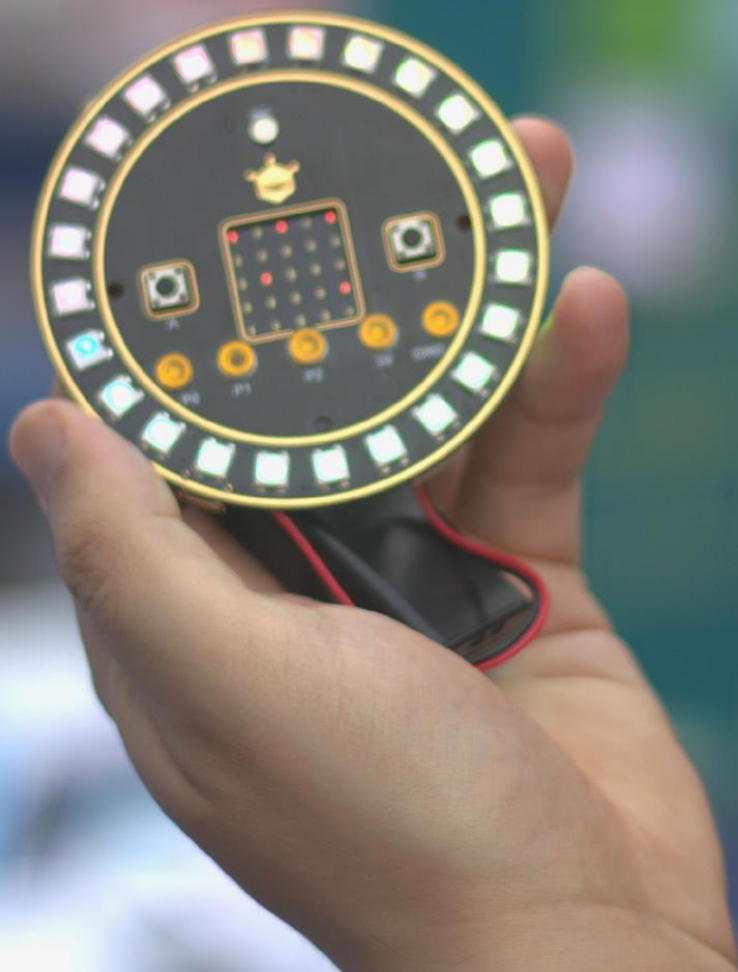
It took a virus to threaten our way of life.  
Special feature in light of COVID-19



SCIENCE•TECHNOLOGY•ENGINEERING•ART•MATHS

# S.T.E.A.M

MISSION STATEMENT



**We are Making Quality STEM Experiences  
Accessible through Outreach and  
Community Engagement**

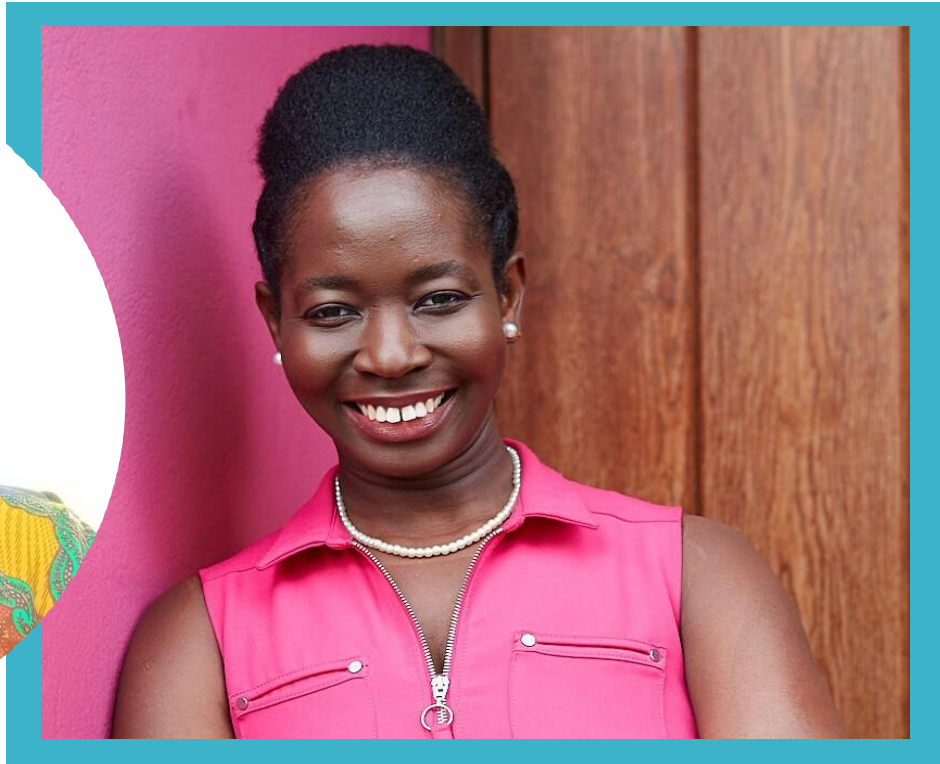
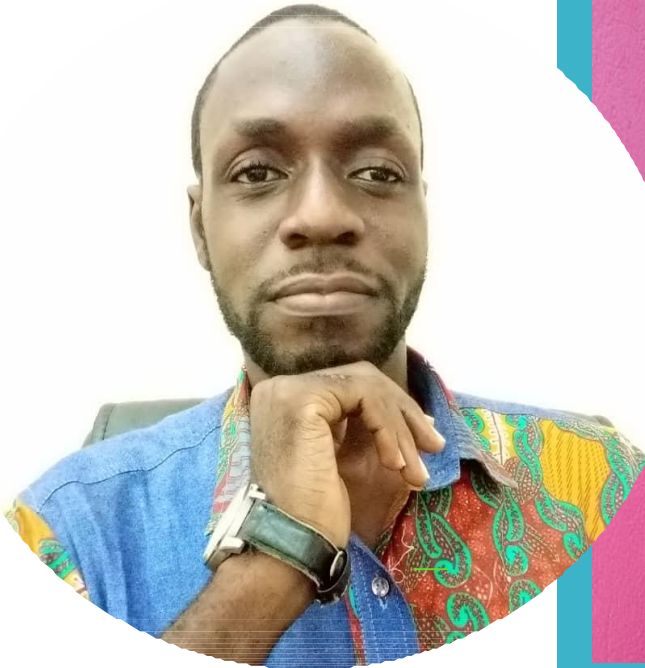
# MESSAGE FROM HEPHZI

FOUNDING

DIRECTOR,

GHSCIENTIFIC

## Embrace - Create - Grow



## Making The Dream Work!

When our parents relocated my brothers and I to the UK in 2001, the message was clear. We were to get our qualifications and return home. Serving Ghana was at the heart of many things my father did, and he wanted his children to be a part of that service to country. Robert started out in Engineering, Benjamin in Technology and Thomas and I went down the Life Sciences route. I start with this background because it has influenced the DNA of the GHScientific community today.

It was during one of our several conversations on returning home that Thomas and I searched extensively online for our career options in Ghana. That exercise felt like looking for a needle in a haystack.

Surely all of Ghana's STEM community were not only working in hospitals and universities? Fast forward months later GHScientific was born as a blog site to showcase the diversity of the Ghana STEM community and highlight the work of our STEM talent. The roadmap was not clear but we had a plan and a genuine desire to give back.

***All you need is the plan, the road map, and the courage to press on to your destination. - Earl Nightingale***

# CONT'D...



**WE ARE FAMILY!  
JOIN US**

The one thing that was certain from the beginning was that it will take a village to raise GHScientific. Our family values naturally became a part of the organisation.

***Our volunteers, our network, our members, and our stakeholders became family.***

That is what binds our community. We invite you to join us as we launch our next growth phase; to keep on giving value to our community through our membership program

Over the years, we have evolved in our mission and diversified our service offerings but most importantly remained committed in our quest for impact. One of the most effective ways to empower a community is capacity building. If we are to nurture tomorrow's STEM leaders then we must equip them with the appropriate skills.

Our vision is now clear. We are building capacity in stem through our outreach and engagement activities.



# OUR TEAM

Dr Hephzi Akordor  
- *Founding Director*

Dr Thomas Tagoe  
- *Co- Founder*

Robert Tagoe  
- *Projects Director*

Wilhelmina Antwi  
- *Communications*

Benjamin Tagoe  
- *Information Technology*

Sandra Quaye  
- *Administrator*

# OUR BOARD

Dr Sai Pathmanathan  
– *Science Education Consultant*

Dr Patrick Arthur  
- *Vice President, West African Centre  
For Cell Biology of Infectious  
Pathogens (WACCBIP)*

Dr. Gifty Tetteh  
– *Research Centre Manager, Imperial  
College*

# OUR VOLUNTEERS

Isaac Kudu

Kwabena Agyare Yeboah

Michel Amenah

Mathilda Sampong

Dela Adade





# OUR VALUES

## SIMPLICITY

Keep science communication simple for all.

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## TEAM WORK

Collaboration is key for research breakthrough and dissemination of information.

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## EXPERIENCE

Everyone should experience science for themselves.

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## ACCESSIBLE

Take STEM to the people where they can be found.

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## MEASURABLE

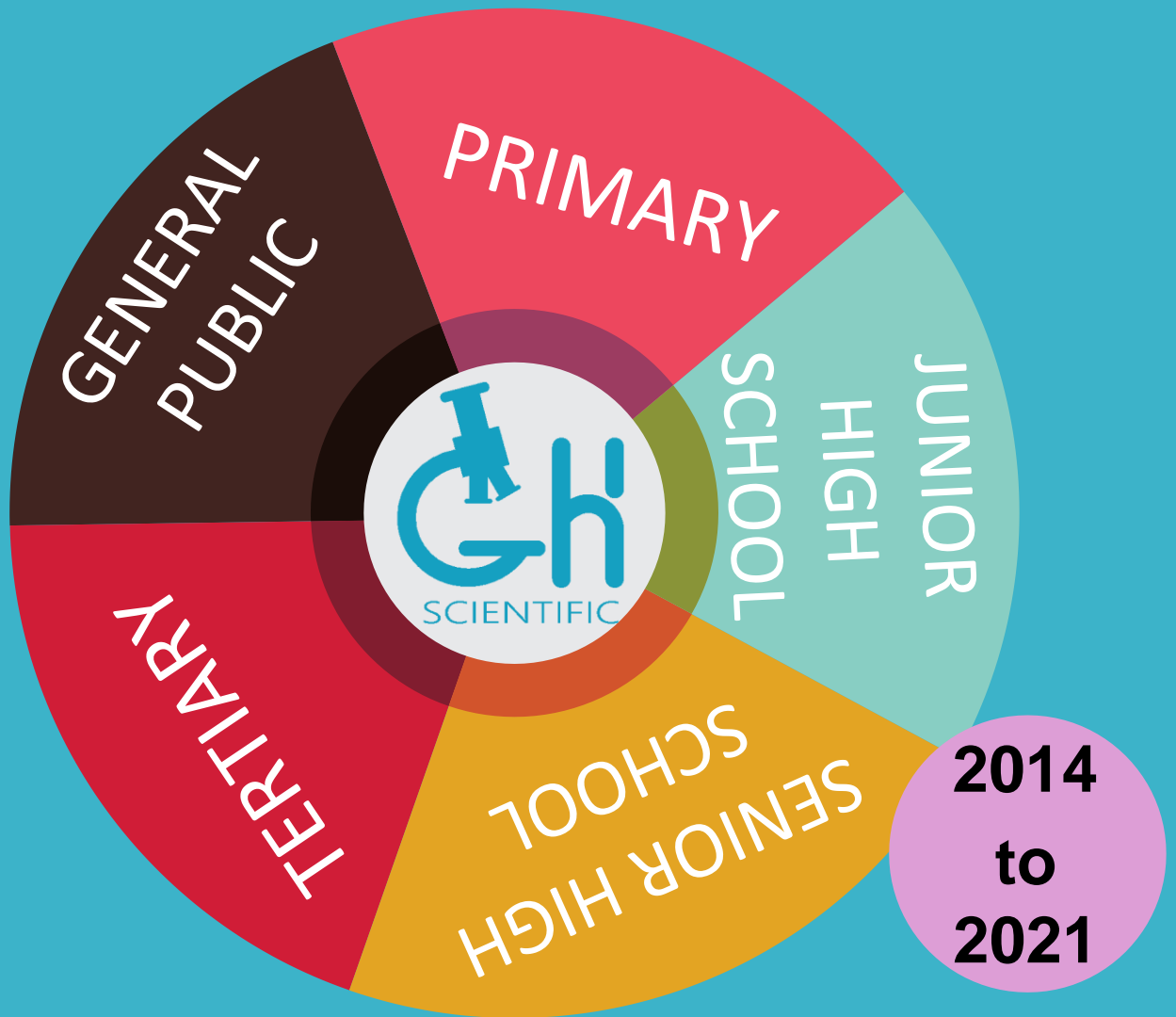
Achieve significant impact through projects with measurable outcomes.





# PROJECTS OVERVIEW

Good Things Happen when the science community engages with the public



# GHANA

# PRIMARY



## SCIENCE OUTREACH DAYS

Engaging children at local libraries and orphanages with science activities



## SCIENCE BOOK TOUR

A shared science library between 3 schools across 2 regions

### PROJECT REACH



**300** direct over  
**6** events

### PROJECT REACH



**900** direct over  
**18** events

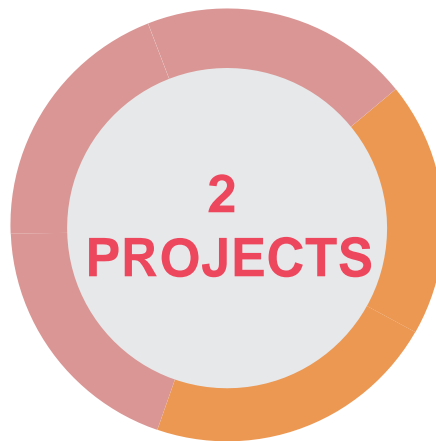


# JUNIOR HIGH SCHOOL



## JUNEOS

100 schools performing science demonstrations in a competitive tv program



## SHAPE

16 schools working in teams to develop scientific solutions to environmental challenges

### PROJECT REACH



**500** direct  
**1.2million** indirect over  
**15** episodes

### PROJECT REACH



**160** direct  
**4,800** indirect  
over **1** year

# SENIOR HIGH SCHOOL



## INTERNATIONAL BIOLOGY OLYMPIAD

Theoretical and practical high level biology competition



## BIOLOGY EXPERIENCE DAYS

Practical and career mentoring days around specific sciences

### PROJECT REACH



**300** direct over  
**3** events

### PROJECT REACH

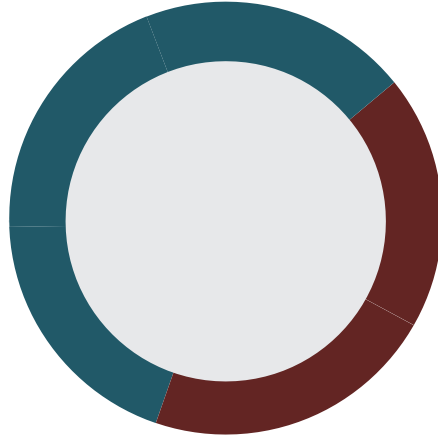


**700** direct over  
**7** events



# TERTIARY

**315  
UNIQUE  
VOLUNTEER  
OPPORTUNITIES**



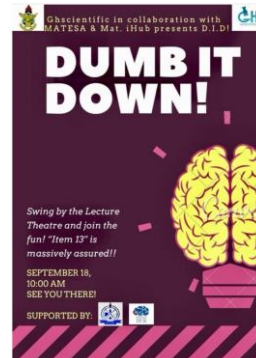
**29 UNIQUE  
SKILLS  
WORKSHOPS**



# GENERAL PUBLIC



**3 x Public STEM Exhibitions**



**3 x Competitions**

**3 x Public STEM Forums**



**4 x Unconferences**



**1 x Art Exhibition (+ 6 affiliated events)**



**PROJECT REACH**



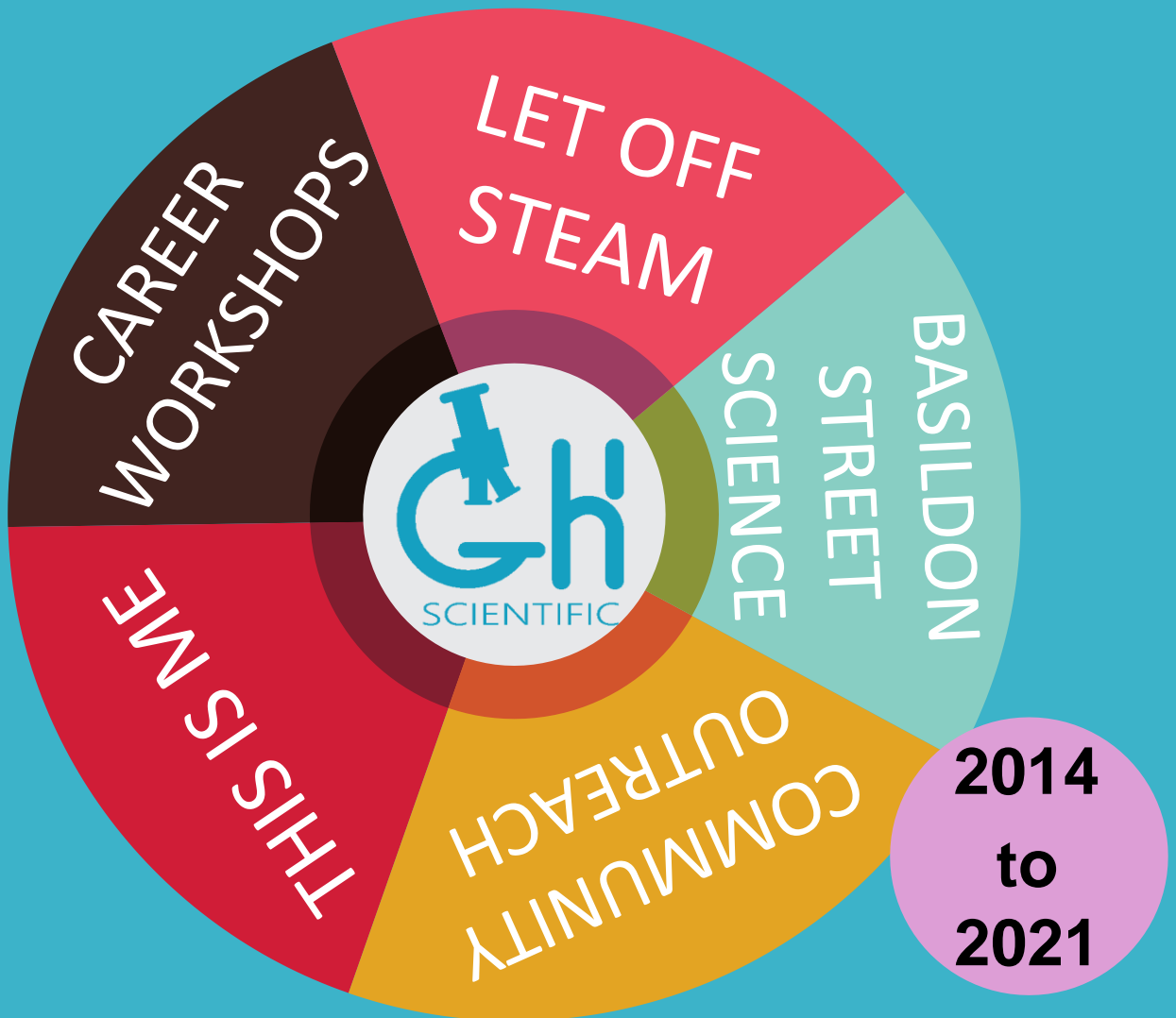
**2,250 direct**



# PROJECTS

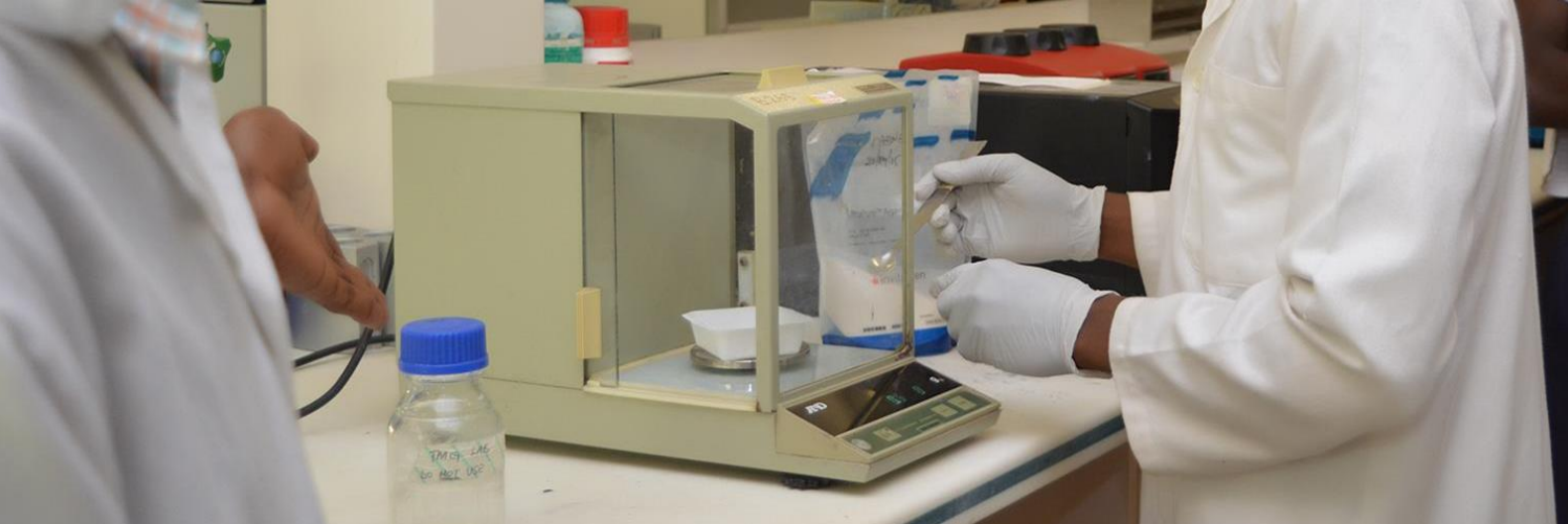
# OVERVIEW

Good Things Happen when the science community engages with the public



## ESSEX - UK

Details of UK projects captured in the UK impact report



# What Are The Scientists In Ghana Doing?

-Dr. Thomas Tagoe

Nobody calls their mechanic unless their car breaks down and it is only when the WC starts leaking that you look for a plumber's number. In the same vein it took a virus which threatened our way of life for people to start asking what the scientists in Ghana are doing. This story starts from a few days ago when I went to my barbers for a cut (man had to look fresh just in time for lock-down), and as you will expect, Covid-19 was the topic of discussion. As this conversation went on, scientists in Ghana started receiving a bashing.

Apparently, we do not exist, but how could that continue once I revealed that I was a neuroscientist. The conversation quickly moved on to – "...even if Ghana has scientists, you people are not doing anything". The conversation just went downhill from there, but I managed to put together a more coherent version of events to share my thoughts for your benefit. This is what Ghana's Scientists are doing...

## **We are raising a new generation...**

Have you ever seen a human brain, had the opportunity to work on a world class research project or even try your hands on some of these techniques you see on CSI? There are many students in Ghana who will answer yes to these questions because scientists in Ghana have made this opportunity available to them at no cost. I specify the no cost part because these activities all happen as part of public engagement activities open to everyone.

The STEM experience days by GhScientific gives senior high school students the opportunity to engage with scientists and get their questions answered while also trying out their hands on some real experiments.

Then there is the Kirkhouse Mobile Lab run by the Cocoa Research Institute which moves from place to place upon request. If you want to learn how to extract and analyse DNA, these are the guys to call. Lastly there is also the Summer Research Program run by the African Research Academies for Women. This involves working for 3 months under a senior research scientist. So we are raising a new generation....

## **...despite being strung along.**

Strung along is another way of saying we are at the receiving end of an endless string of promises that never materialise. Salaries could be better, research students self finance and research sponsors are external. Here's a headline from 2018 which promises 1% GDP to be allocated to funding research in Ghana. As it stands now, there isn't a national research funding body that is open to accepting applications from research scientists and institutions. To put this into perspective, one of the biggest funders of research in the UK runs on a £1 Billion yearly budget, whereas in the US, this amount is \$30 Billion.

Research is expensive, both in terms of money and skill. If you want to know how many people in Ghana have the corona virus, it will not cost much of either to find out.

**cont'd...**





What will cost you an arm and a leg are answers to the real interesting questions; Who did they catch it from?, Is the virus in Ghana the same as the one in China?, Do we have less cases because of our skin complexion?, What if the virus came in the rainy season?, Is there a herbal remedy that really works?, Between Obinim and Kennedy Agyapong, who will catch the virus first?. These questions require the sort of money which a scientist cannot just finance from their salary.

## **We are solving local problems...**

It takes technology transfer for the average person to see the impact of science in their life. This is where the scientists identify a solution to a problem, then pass it on to people who can make a product out of it for us all to benefit. More often than not, what tends to happen is the innovation gets lost along the way or the scientists take charge of the technology transfer because they cannot find the right people to take their solution and make something out of it. For example, Dext Technology has the Science Set, Incas Diagnostics has the VagKit, and Sesi Technologies has the Grainmate.

On a larger scale, there is the West Africa Center for Crop Improvement which develops and releases new higher yielding and more climate-resilient varieties of maize, rice, and soybean. All over the world, this process is a bit tricky and the University of Ghana has recently set up a unit dedicated to making this technology transfer happen.

## **...and building trust internationally**

All these may not be motivating government to set up a research fund but scientists in Ghana are being recognised all over the world. Our biggest research centres such as Noguchi, WACCBIP and WACCI are financed by international grants they won by showing ability and merit.

There's no better way to recognise someone for their efforts than to entrust them. Whether it is entrusting them with positions to contribute to the international direction of the field or research grants to continue the good work. Darlington Ahile Akogo was recently appointed to lead a WHO focus group on Artificial Intelligence for radiology, Dr. Priscilla Mante was recognised by UNESCO,

whereas Dr Adolf Acquaye, Dr Joseph Ekow Essandoh-Yeddu and Dr Lawrence Agbemabiese were among 229 scientists selected globally to work on climate change. These sort of achievements aren't new, there are many Ghanaians who have inspired medical breakthroughs. A recent episode of The Horizon was dedicated to celebrating Ghanaian scientists and

this podcast

episode talks about some great innovators within the same space. I will admit that scientists in Ghana do not have a very good PR machine going on. We may be excelling in the academic field but very few within the population are aware of the benefits we bring. This may present a very unique opportunity, after all, it's not everyday that a virus threatens our way of life.

*“GHScientific is more than a Team, it’s a family that truly cares about making impact and changing the narrative of STEM amongst students in Ghana”.*

In 2016, I started volunteering with GHScientific as an assistant.

As a first year student, GHScientific gave me my first professional experience as a writer, social media strategist and interviewer for our YouTube channel. I got the opportunity to build my network and develop skills in communication, leadership, research and above all it gave me a sense of purpose.

Working with GHScientific has been an eye opening experience for me. One of my proudest moment was shooting a video and raising funds on the streets of Accra to prevent the closure of West Africa’s only Planetarium which happens to be one of two planetariums in Africa!

I’ve experienced firsthand the tremendous impact of projects like the Science Book Tour, SHAPE Project, NeuroGirl Camp and many others by GHScientific.

Myself like most students in Ghana, growing up I had believed that anything relating to Science, Technology, Engineering and Mathematics (STEM) is difficult.

Interacting with students who’ve benefited from some of these projects and seeing how excited about the possibilities of pursuing a career in STEM are some of the most fulfilling moments I’ve had at GHScientific.

Being part of GHScientific thought me the importance of team work, how the little that we do can have a ripple effect on the lives and minds of young students in Ghana.



## SPOTLIGHT

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WILHELMINA

GHScientific is more than a Team, it’s a family that truly cares about making impact and changing the narrative of STEM amongst students in Ghana.

I am truly excited about what the future holds for GHScientific and students across this continent.





*“I would encourage anyone that has a passion for science or simply want to explore science in a fun and engaging way to not miss the opportunity to attend a GHScientific event or join the community”.*

I encountered GHScientific as an undergraduate student reading Medical Laboratory Science at the University of Health and Allied Sciences, Ho. I had the privilege of participating in most of their projects including the Shaping Healthy Attitudes and Protecting the Environment (SHAPE) funded by the Wellcome Trust where I served as a student ambassador on the project. I equally participated in several other programs notably the Science Barcamp which changed my perspectives on my career options.

My encounter with GHScientific grew past just attending events they organised to building a lasting relationship with the founders who now serve as my mentors and this catalysed several support from them to me and has uniquely positioned and launched me into what I'm doing today as a career.



## MEMBER STORIES

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Harry

The events are fun, impactful and you get to widen your network and actually broaden your scope and knowledge in science. There is always something to learn, and share!

## ***JOIN OUR COMMUNITY***



# MEMBER STORIES

I built my passion for stem engagement through my involvement with GHScientific. My first ever stem outreach opportunity (when I actually led a public science session) was during the maiden Africa Science Week (ASW) in 2018, which GH Scientific was leading for Northern Ghana. I facilitated with other Lead for Ghana Fellows as volunteers for GHScientific and the passion for these engagements have since soared. I would subsequently lead the next ASW in my capacity as Head of STEM at EduSpots. The influence has been massive.

Aliu - EduSpots

It's is a great community you should think of when ever you think of STEM advocacy, innovation and development

GHScientific has deepened my knowledge about STEM and its applications in our daily lives through the daily science facts and the juneos challenge.

Bushiro - Teacher

It has helped me gain project management lessons which I now apply in my line of work. It also broadened my scope of understanding of STEM and areas where its teaching and learning needs to be improved in Ghana and globally as well. Through their social outreach activities I also learned how to be a better human with a clear understanding about STEM advocacy and about humanity.

Vincent – Research Assistant

GHScientific has broadened my horizon so far as science is concern

Prince – Admin manager

GHScientific provided me with an enabling environment, networks and support system to realizing my dreams as a young student who wanted to launch an initiative through to a defining career path.

Harry – Molecular Biologist

Being a member has encouraged me to learn and build up more skills in other STEM areas besides my own.

Cedric - Student

GHScientific allowed me to see science in a different perspective.

Wisdom – Research Assistant



# Thank you

*We couldn't have done it without you*

- Wellcome Trust
- Biochemical Society
- Physiological Society
- Royal Society of Biology.
- Gramean Foundation
- Vanderbilt University
- CAPCO Global
- International Brain Research Organisation
- Dana Foundation
- The National Lottery
- Author Aid
- Google
- Ghana Museum of Science and Technology.
- Noguchi Institute of Medical Research
- Ignite Futures
- Tech Soup
- Royal College of Pathology
- Royal Society
- WeGoInnovate
- DEXT Technologies
- Dr Elsie Kauffman
- Dr Patrick Arthur
- Dr Sai Pathmanathan
- Dr Gifty Tetteh
- Dr Sagoe
- Prof. Awundare
- Gameli Adzaho
- Lucy Quist
- Koby Blay



Building Capacity in STEM through Outreach and Engagement



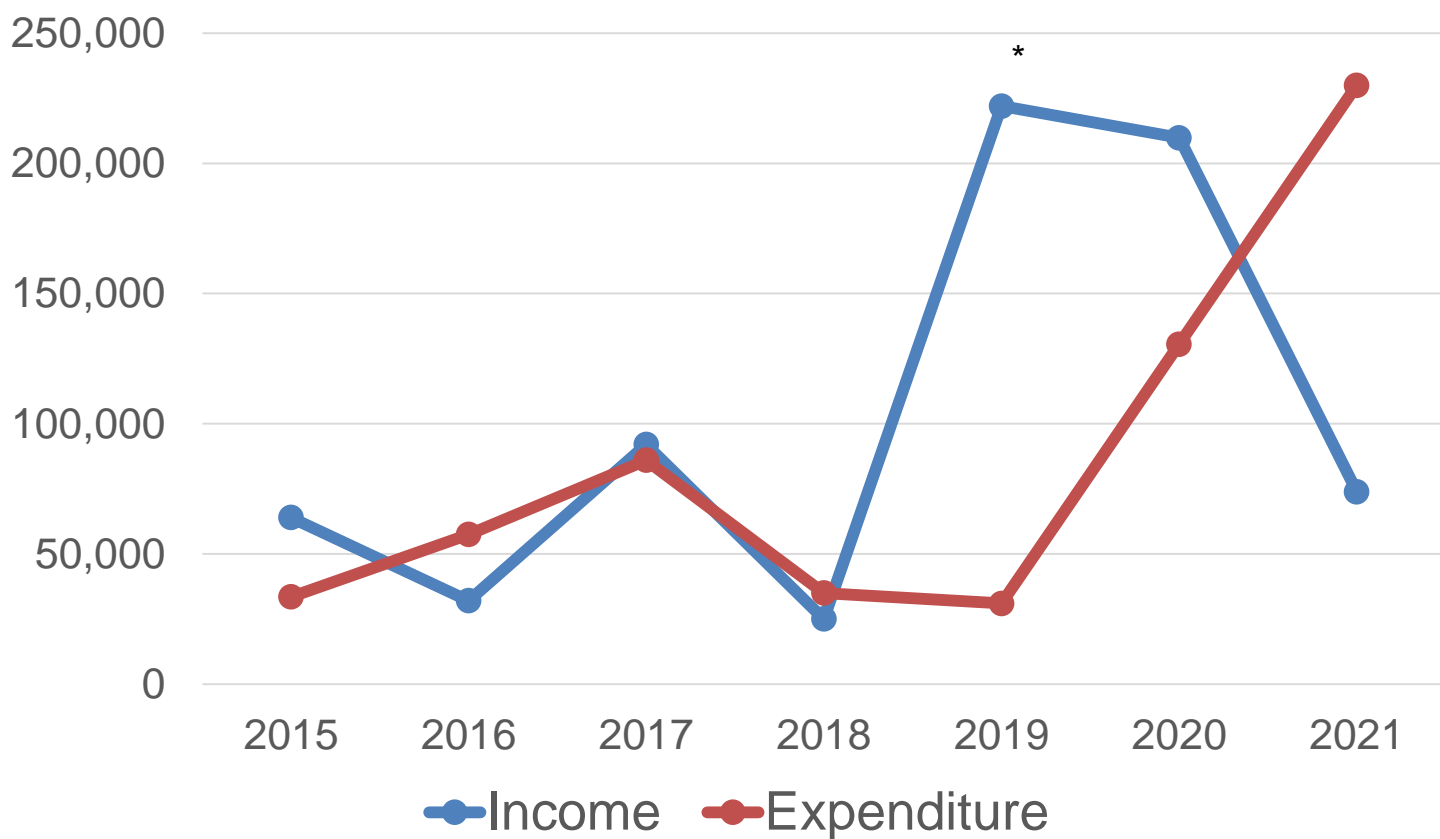
# FINANCIAL REPORT

Building Capacity in STEM through Outreach and Engagement

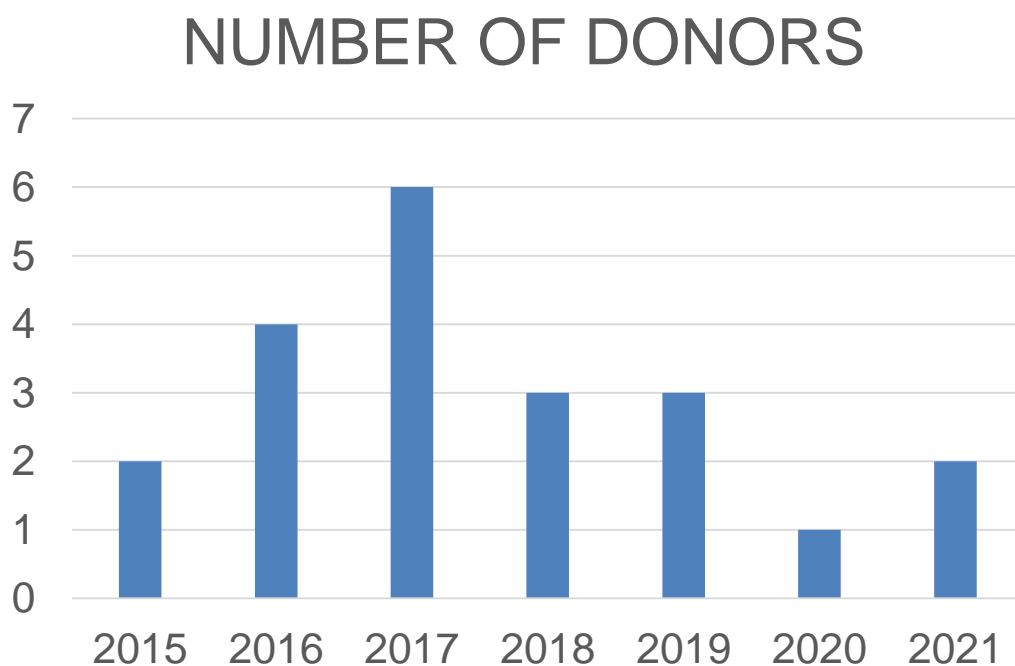
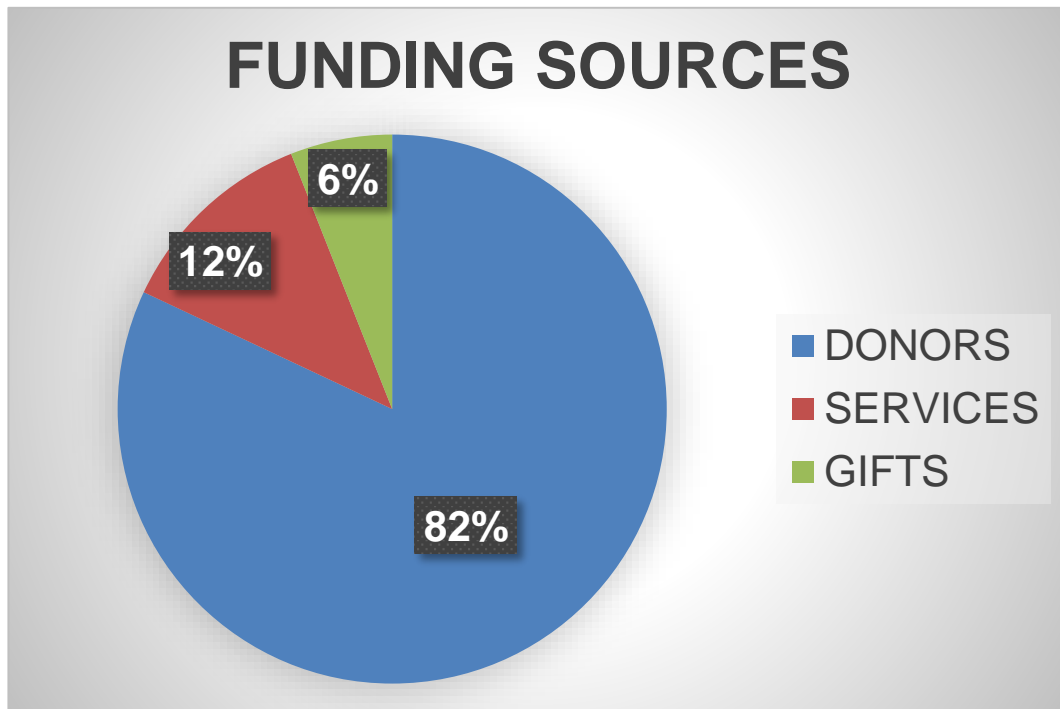


# INCOME STATEMENT

## TOTAL INCOME AND EXPENDITURE



# INCOME STREAMS





# THE NEXT 5 YEARS

*We are passionate about making quality STEM experiences accessible to all and building capacity in STEM..*

**PARTNERSHIPS**

**CAPACITY  
BUILDING**

**BIO-GIRL  
CAMPS**

**MEMBERSHIP**

**OUTREACH**



**WE COULD NOT HAVE MADE IT THIS FAR  
WITHOUT YOU.**

## **HOW TO GET INVOLVED**

### **AMAZON SMILE**

Shop on smile.amazon and AmazonSmile will donate a portion of the purchase price to your selected charity.



### **BECOME A MEMBER**

Join our growing membership community. We have a network of students, early career researchers and professionals with an offering for everyone.



### **VOLUNTEER YOUR TIME AND SKILLS**

Could you volunteer your time to support our work? We are always looking for



### **CONNECT WITH US ON SOCIAL**

Follow us on Facebook, instagram and twitter @ghscientific



### **CASH DONATIONS**

You can support by donating directly to our mobile money account or via bank transfer.



### **PURCHASE MERCHANDISE**

Visit our website to purchase one of our custom made merchandise just for you.



# Impact Report

2014 - 2021



Building Capacity in STEM through Outreach and Engagement