

The Chain Reaction



Humanitarian Solutions Worldwide

Newsletter 28 • October 15, 2018

Do you notice anything different?

BY CHEMISTS WITHOUT BORDERS LEADERSHIP
info@chemistswithoutborders.org

As the organization is growing we have felt the need to refresh our image to better reflect the work we are doing to solve humanitarian problems worldwide. Today we would like to share with you our first big change: the logo. Changing the image that we have learnt to identify with is not easy. However, Sasha Dimov has done a stellar job developing our logo to truly represent the mission and vision of Chemists Without Borders.

The hexagon (reminiscent of so many chemical structures and easily relatable to many chemists) remains at the center of the organization. However, with the introduction of new colors and the circles surrounding the hexagon, we are recognizing the different dimensions and systems that are at play in a humanitarian organization like ours.

A wholehearted thank you goes to Sasha for her hard work. We cannot wait to flaunt our new look!

As you know, being an organization run by volunteers, we depend on inspired and generous individuals, organizations, and institutions, to be able to fulfill our mission of solving humanitarian problems.

At this point, we are really in need of additional donations. We greatly appreciate the support of our members. We really couldn't do this work without the help from you and the rest of the Chemists Without Borders Community. If you can make a donation of any amount at this time, it will help to ensure that our work can continue. Donations can be placed through [our Donate Page](#).

Thank you!

What's Inside this Issue

- 1 Do you notice anything different?
- 2 AIDSfreeAFRICA equipping labs in Cameroon
- 3 Affordable education in the Age of Information
- 4 Ongley-Myers Sierra Leone Education Project
- 5 Pay It Forward Bangladesh: The Story of Spreading Kindness

Our Mission

Chemists Without Borders solves humanitarian problems by mobilizing the resources and expertise of the global chemistry community and its networks.

Our Vision

A global support network of volunteers providing mentoring, information and advice to ensure every person, everywhere, has affordable, consistent and persistent access to:

- Essential medicines and vaccines
- Sufficient safe water
- A sustainable energy supply
- Education in green chemistry and business which people can apply in their daily lives and teach to others
- Safe processes in work environments where chemical hazards exist
- Emergency support, including essential supplies and technology

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AIDSfreeAFRICA: Equipping laboratories in Cameroon

BY SHARA PANTRY
spantry@gmail.com



Over the years AIDSfreeAFRICA has had the opportunity to consult with seven pharmaceutical startup companies in Cameroon, West Africa. During that time, it became apparent that these companies followed a certain pattern that ultimately ends in shut down. There are many reasons why these heroic efforts end so disappointingly, but one fact holds true for all; it is tremendously difficult to sustain pharmaceutical production in a resource-poor setting. The lack of the necessary supporting infrastructure that is taken for granted in developed countries stacks the odds against these efforts. AIDSfreeAFRICA thus decided to focus on hands-on-laboratory training which, is one aspect needed but lacking in Cameroon.

Currently, AIDSfreeAFRICA is equipping two laboratories, one in the capital, Yaounde, and one in Bamenda, the largest city in the English-speaking Northwest region. In Yaounde, the laboratory is run by an employee and is focused on medical diagnostics. Specifically, a fluorescent microscope found nowhere else in the country is used to diagnose malaria. AIDSfreeAFRICA is also working to acquire a thermocycler for polymerase chain reaction, a test used to measure HIV viral loads.

The Bamenda Laboratory is dedicated to becoming the premiere quality control laboratory focusing on pharmaceutical drug and water quality. Cameroon has little opportunity to analyze the drugs that come into

the country and even less for those that are already on the market. Doctors have a hard time deciding if a treatment is not working because it is not the correct cure for a patient or if the drug has lost its efficacy due to loss of the active ingredient due to improper storage and exposure to heat and humidity. The 32-square meter laboratory that belongs to one of the government research institutions is currently renovated to reach a level of standard necessary.

AIDSfreeAFRICA is looking for scientists, professors, and science teachers who have access to basic chemistry analytical equipment and who would like to come to Cameroon to conduct a one or two week long hands-on training. At the end of the training, the equipment will be put in the care of AIDSfreeAFRICA for further use in the lab. In particular, AIDSfreeAFRICA is interested in the following:

- pH meters with ion-specific electrodes
- Acid-base titration
- Thin-layer chromatography (TLC) supplies (sheets, developing chamber).
- High-pressure liquid chromatography (HPLC)
- Gas chromatography (GC)
- Combustion analysis machine for determining elemental composition
- Karl Fischer titration equipment
- Kjeldahl nitrogen analysis equipment
- Other small analytical chemistry equipment and experiments

If you are interested send your CV and a proposal of what you would like to teach to Dr. Rolande Hodel at rrhodel@aol.com. The earliest opportunity lies between May 30 and July 30, 2019.

Affordable Education in the Age of Information

BY DR. NIKITA NAFDHOOR
info@edugeorgia.com

Our age has been dubbed the age of information; every profession, from farmer to doctor, now requires more and more knowledge to become successful. We're constantly finding ourselves living in a world where education is becoming ever more important. However, many bright and intelligent individuals are finding themselves in the harsh reality in which they can't afford further education.

Since 2015, over 7,500 international students have been given the possibility to pursue their dreams thanks to our team at EduGeorgia. We provide affordable opportunities to get an American standard degree in a European oriented educational system. With medical degrees starting from \$7,500 per academic per year in Georgia, compared to \$200,000 in the USA, it's no surprise that Georgia has attracted so many international students. Besides the fact of the tuition fees being drastically lower, the cost of living is also much less, helping save money in every aspect of a student's life.

Not only does going into further education in Georgia make financial sense, due to how our educational system works, you also don't need to have studied your preferred subject in high school. For example, you don't need to have studied chemistry to study medicine, nor IT to study computing. You can choose from a wide range of subjects to further your passion or start your career.

For countries with much lower living and educational costs, such as India and Bangladesh, there is another argument for continuing one's education in Georgia. Some promising students do not do well in high school for a variety of reasons. These students may not qualify for admission to universities in their home country, and may therefore be locked out of a college education. However these students can be admitted to universities in Georgia and, thereby, have an opportunity to redeem themselves by performing well in their Georgia university courses.

With courses like physiotherapy, nursing, aviation

piloting, aviation engineering, mechanical engineering, international law, and many others, becoming an expert in the field of your choice has never been so easy.

How do we help?

Our staff at EduGeorgia are committed to helping international students fulfill their potential. And so, we help at every stage of the process after you make that important decision to study abroad. We work closely with 9 great Georgian universities in order to make your enrolment as easy as possible. From assisting you with the headache of paperwork to helping you find accommodation and settling in, our staff is full of helpful tips and knowledge to make your transition into student life in Georgia as smooth as possible.

International students from all over the world have made Georgia their student home. They've all benefited from the high standard of education. Our team at EduGeorgia has helped people from almost every continent, with successful students arriving from Asia, Africa, the Middle East, South America, and even mainland Europe. Our friendly team takes care of you every step of the way and do everything we can to make that culture shock as small as possible. We'll even help you with the local food. You should try "khinkali" first; the lamb is cooked to perfection!

Fulfill your potential and pursue your ambitions. You're only one message away from beginning the career of your dreams! You can contact us on our email: info@edugeorgia.com or visit our website, www.edugeorgia.com.

Ongley-Myers Sierra Leone Chemistry Education Project

BY A BAKARR KANU
kanuabb@wssu.edu

Sierra Leone, Africa, faces challenges that are incomprehensible to most persons living in developed countries; the electricity is still unreliable in some parts of the country, and nonexistent in the villages. More pertinent, the classrooms have very little in terms of equipment and supplies. Although students are required to purchase their textbooks, many cannot afford to do so. As a result, students copy notes from the chalkboard and imagine or draw their chemistry experiments.

A team consisting of experts from all over the world has been developing a chemistry project to address some of the educational needs in Sierra Leone. Dr. Kanu, Associate Professor at Winston-Salem State University (WSSU) and director of the Sierra Leone Chemistry Project recently visited Sierra Leone on a fact-finding site visit. The trip was made possible by a travel grant provided by WSSU. This grant allowed Dr. Kanu and Dr. James Pope (Interim Director of International Programs at WSSU) to travel to Sierra Leone to initiate discussions and make proper contacts for the project (July 16-31, 2018). The goal of the fact-finding site visit to Sierra Leone was to establish collaboration with the Sierra Leone government officials, faculty and administrators at both University of Sierra Leone (Fourah Bay College), and Milton Margai College of Education and Technology (MMCET), and the administrators at local schools.

In addition, Dr. Kanu and Dr. Pope have reviewed

facilities firsthand, acquired information, interacted with students and faculty, and worked out details for student and faculty travel, accommodation, and local logistics. Dr. Kanu is currently working to introduce a study-abroad course at his institution (WSSU) to make way for the first teacher workshop in Sierra Leone in March 2019.

The long-term goal is to expand and adapt this project to other countries facing similar situations.



Pay It Forward Bangladesh: The Story of Spreading Kindness.

BY SYED MOHAMMAD ABU DAUD (BADAL SYED)
badalsyed@gmail.com

It was 25 April, 1994. I was going to a most prestigious Civil Service job in Bangladesh. My loved ones were there to wish me luck for my new journey to a bright career. It was a moment of pride and happiness. Suddenly, one of my school teachers, Mr. Mohiuddin Khan, told me, “Son, you have accomplished what many cannot. You are going to be the part of the most sophisticated elites of society. I appreciate that, but have you ever thought that this is not only the beginning of a good career, but also the start of your repayment to society?”

I was somewhat puzzled. What was my favorite teacher trying to convey? Then he continued, “Till yesterday you have taken a lot from society. You studied with scholarships funded by the tax payers’ money. They provided you with almost free education and made you fit enough to join the Civil Service. Now it is your turn to pay back that debt to others. Do not forget it, if you do, that will be a betrayal.”

This is the beginning of our program Pay It Forward Bangladesh. My teacher reminded me about what I owe to my society and it was burning me. As a result, I sat with some of my friends, who were in good positions and shared what my teacher had told me. There was silence for a few minutes and then a burst of emotion. “Yes, the time is ripe to repay society!”

At that very moment, we had created a group called Pay Back Society and started helping others as per our capacities. Our first target was distressed students, then other people who needed help, like for medical treatment. With that, our story of spreading kindness started.

At first we were only five people. Our first pick was Syed Mohammad Sadat, a 8th grade schoolboy. With little help from our group, he has graduated and completed post-graduation studies with first class honors from the most prestigious university of Bangladesh: The University of Dhaka. Now Sadat is a grown gentleman working as a deputy Director of the Central

Bank of Bangladesh. Thanks to The Project for Human Resource Development Scholarship by Japanese Grant Aid (JDS), he is going to do his second master’s degree from the University of Hiroshima, Japan as a JDS fellow.

Gradually our intakes increased, slowly but surely. There was a major breakthrough in 2016, when one of my friends, Ms. Jolly Lala, informed me about the ‘Pay it Forward’ movement of Bell Bank USA and suggested that we rename our project Pay It Forward Bangladesh. She also advised me to use Facebook to spread the project nationwide, so that many unknown students and other distressed people can benefit from it.

We did it and a miracle happened! Thousands of people, both donors and recipients, joined us. Now we have almost 17,000 members. This is one of the largest online help platforms of the country.

The most important thing is, we never accept any funds directly. Instead, we connect donors and potential recipients and they act on mutual basis. Now I will proudly explain how we are spreading kindness without raising any single penny.

Pay It Forward Bangladesh is a platform to help others. This platform stems from the century old international concept ‘Pay it Forward’, an idea popularized by American philanthropist Benjamin Franklin. We adopted the ‘Pay it Forward’ concept for our platform in 2016 to uphold the spirit of this centuries old concept of kindness.

The mission of this platform is helping others with only one expectation; the recipient will also help others when they have will overcome their problem. Thus a chain of help will be created and bring forth change in our society.

Pay It Forward Bangladesh is basically a linkage platform of donors and recipients. It does not receive

any funds or donations directly. Instead, it serves as a bridge between potential donors and recipients. People usually post their problems in our Facebook group, Pay It Forward Bangladesh (Let us Spread Kindness), and our members see it. Some of them respond to offer help based on their skill. Sometimes we pick 'help posts' from newspapers or other online sources and post those in our group. Our members respond accordingly. Our duty is completed after connecting the donor and the recipient. They continue the problem solving on their own. However, we keep a record on how the help is working and whether there is any room for improvement. We also urge the recipients to help others as per their capacity, such as to assist a patient, to provide free tuition to another poor student, to protect the environment, etc. Because of this, one good deed multiplies into many.

Here is a summary of the achievements of Pay It Forward Bangladesh:

1. Almost 400 underprivileged students are getting monthly scholarships to continue their study.
2. Some of our members, led by Mr. Saiful Islam Nesar, are volunteering in the hospitals to attend poor and unidentified patients. Until now we have helped seven hundred patients to get proper treatment and have sent them back home. It is a much talked success in Bangladesh and many stories have been published in major daily newspapers. Moreover, a documentary on this work has been made by the largest Bangladeshi newspaper ProthomAlo.
3. We have launched the Parents' Lounge for the senior citizens. They can spend quality time here with their friends. This is not an old folks home, but a leisure club specifically for them. They come here, have fun, watch movies, listen to songs and play indoor games. And after that, they return to their homes. This lounge is created because, in Bangladesh, there is very little scopes and places for the senior citizens to spend their time in a manner they like. This lounge is totally free of cost and Pay It Forward Bangladesh bears all the expenses.
4. Pay It Forward Bangladesh has arranged treatment for twenty patients with serious illness. They were treated at home and abroad. There are some others

in the queue.

5. Pay It Forward Bangladesh provides jobs to almost twenty-five people.
6. This platform has taken the lifetime responsibility of a family. This family has lost the father and the mother is a patient of multiple sclerosis. Unfortunately the only boy of the family, a twelve-year-old, is also attacked by this lethal disease. Pay It Forward Bangladesh has created a fund to support this family. This fund is kept in the bank and the family is living on the accrued bank interest.
7. Pay It Forward Bangladesh has arranged a fund for a woman to start a business. Her husband is bed ridden and can't work.
8. Pay It Forward Bangladesh has raised a fund of \$6,000 to provide three scholarships to underprivileged students of medical and engineering universities, as well as other institutes.
9. Members of Pay It Forward Bangladesh feed seventy hungry people per day at their own cost.
10. 150 members of the organization have promised to donate ten percent of their annual income to charity. Five members have declared fifty percent of their wealth to be donated for charity.
11. In 2017 our members spent almost \$120,000 in helping others and it is increasing every day.

Though we have thousands of stories like this, we would like to share three special cases with you. It always make us happy to be part of these great achievements.



1. Mahbubur Rahman Rony is a visually challenged man now studying medicine at the Lynch School of Education at Boston College in the United States. He previously received a degree in special education from the University of Oslo in Norway and a master's degree from the University of

Dhaka with honors. He later joined the University of Oslo as a college teacher. Pay It Forward Bangladesh provided assistance to help him continue with his studies.



value private university.

A small step, taken in 1994, is a big platform now. It is a big tree to provide shade to those who need it. But we are not satisfied, because we do believe:

The woods are lovely, dark and deep,
But I have promises to keep,
And miles to go before I sleep,
And miles to go before I sleep.
-Robert Frost

For more information on Pay It Forward Bangladesh, please visit [our Facebook group](#).

2. Saifuddin Talukdar, a twenty-year-old man born in a lower-middle class family, left university due to financial problems. He went to work in Malaysia as a lower-ranked employee to support his family. Thanks to Pay It Forward Bangladesh, he's returned to his education. He's now studying software engineering at the University of Malaysia Sarawak.



Support Chemists Without Borders!

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3. Nusrat Jahan had put a hold on her studies for seven years due to financial problems. Pay It Forward Bangladesh helped her return to university after this long gap. She is now the top student in the social welfare department of the Gono Bisshawbidalaya (Public University), Dhaka in Bangladesh, on top of taking care of her two children. Despite the name, Gono Bisshawbiddalay is actually a high