Teaching Biochemistry in Pyongyang, North Korea

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Overview: A critical reflection on teaching biochemistry as a visiting professor in Pyongyang, North Korea

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In 2011, I attended the annual meeting of the American Scientific Affiliation at Wheaton College in Naperville, Illinois and presented a talk called the “The Magnitude of God” where I attempted to display the scale of the universe from string theory to multiple universes using powers of 10 entwining God’s word into each power of 10. While there, I was introduced to Joshua Song and Pilju Kim. They talked to me about a school in North Korea that taught in English and was run by Christian faculty. Pilju Kim the director of Agricultural Research and Development at this university (Pyongyang University of Science and Technology or PUST) explained to me that the university needed a biochemist for the summer and wanted to know if I would be interested. They were at the conference specifically searching for this temporary faculty member. They gave me contact information for Norma Nichols, a retired Southern Baptist Foreign Missionary, who is currently the Director of International Academic Affairs at PUST. I wasn’t even sure where North Korea was located on the map, just that it was our enemy and that they were trying to make a nuclear bomb. However, sometimes you just know when God is calling you to do something. I agreed to go home and pray about the summer. I researched and discussed going with my pastor, the dean of Christian Studies at my University (Howard Payne University) and my family. My husband, children and grandchildren were not surprised when I talked with them about going; so I contacted Norma Nichols who put me in contact with Robert Shank the Dean of Agriculture and Life Sciences at PUST and I agreed to teach biochemistry for two months in Pyongyang to twenty undergraduate students and seven graduate students. Without my even asking, my church collected almost enough money to pay my airline expenses and my university gave me additional faculty development money.

Currently, the U.S. policy allows U.S. scientists to travel to DPRK without having to grant formal permission. Scientists must apply for a VISA into North Korea which usually takes several months and into China which usually only takes a few weeks. When the scientist receives acceptance of the VISA application the scientist must travel to Beijing to receive the
Visa before traveling on to DPRK. Travel from Seoul, South Korea to Pyongyang is not allowed as there is a travel ban from South Korea to DPRK (Y.-J. Kim 2012). I received my Visa’s, flew to Beijing to obtain my VISA and then boarded the plane for Pyongyang. It was late in the evening when my airplane approached Pyongyang, a city of three million people. Looking out the window of the airplane, I could not see any street lights and very few other lights except the runway lights. The process through customs was not bad but I did have to give up my cell phone. While waiting to be picked up by the university, I learned that outsiders cannot talk directly with ordinary people in DPRK, nor may they use the taxis. They must communicate through a minder and use an official driver. I arrived on campus with my official driver and was given a very nice living space on campus. The next morning, I had to give up my passport which was a little scary.

I learned that North Korea is not called North Korea. It is the DPRK or the Democratic People’s Republic of Korea. The government mindset has not come to grips with the outcome of the Korean War (1950-1953) and still considers the Korean peninsula as one whole country belonging to a united Korea; the people of DPRK are constantly reminded of the need for reunification. The Reunification Monument, built in 2001, is an arched monument over a major highway. From my apartment building on the University grounds it was possible to see part of this statue (Figure 1). This monument depicts two Korean sisters holding a map of Korea but separated because of the United States (U.S.) presence in South Korea and the capitalistic influences on South Korea. North Korean maps do not show a divided North and South Korea, but one Democratic People’s Republic of Korea.

The second thing I learned is that the supreme leader of DPRK, Kim Jong-Un, appointed after the death of his father Kim Jong-Il is revered by the people as a god just as his father and grandfather before him. He is called the “dear leader” by his subjects and expects obedience in actions, devotion in thought, and complete displays of loyalty (Stone 2010a). The people unquestioningly worship their “dear leader” with heart and soul (Lerner 2007) and believe what the government dictates are necessary for the betterment of their country (Lerner 2007).
Three things--the supreme leader, the government, and the army, (Figure 2) demand the devotion of the people of Korea and guide the destiny of the Korean people (Lerner 2007). The people accept this doctrine along with Juche (Stone 2010a), a doctrine of self-reliance where a person depends only on their own abilities and rejects dependence upon others (Stone 2011a). The countries problems are solved using collective internal efforts not from outside influences (Lerner 2007). Each person is like a thread in a braided rope, alone it pulls nothing; braided together it pulls the load (Lerner 2007). Everyone follows the dictates of the government whether it is working in a rice paddy or on a construction detail for a high rise apartment building in addition to their normal job. On the campus where I taught there is a Juche monument (Figure 3) reminding the students of their duty and honor to their country and the common goal of a unified Korea (Lerner 2007). Banners painted on the walls of the classroom building and photos of Kim Jong-Un, and Kim Jong-Il in each classroom remind students they are here to serve their leader, their government and the army (Figure 2).

Everyone must work in the rice fields when called. The government will close down businesses for a day and send the employees to the rice fields. Rice cultivation is a very labor intensive process (Figure 4). Without the rice crops DPRK would not have enough food to feed its people. To flood the fields, huge water pumps...
are used. To have the energy to run the pumps, the electricity to parts of Pyongyang is diverted to the pumps.

In the past, the United States has provided many generous incentives for diplomacy along with punitive sanctions. The sanctions provide little behavior changes in DPRK and tend to hurt the poor and needy more than the elite and governmental officials (Zhu 2012). The generosity of the U.S. and U.N. included twenty thousand (20,000) tons of food in 1996 and six hundred and ninety-five thousand (695,000) tons of food in 1999 (Lerner 2007) due to the famine in DPRK from 1995-1998. Approximately 220,000 to four million people (Kang 2011) starved or died due to famine related diseases in North Korea. The famine was caused not just from weather conditions but also from poor governmental policies. The self-reliance doctrine of DPRK was in conflict with the gifts of food from the U.S and the U.N. The rice donated was a long grain rice and the people in Korea eat short grain rice. This was a minor detail to the U.S. government sending the food, but an insult to these proud people. Even so, the U.S. continued to provide food aid until the sinking of the South Korean ship Cheonan in 2010 (Marcus 2012), to which the DPRK officially denies involvement. This and the shelling of Yeonpyeong Island in 2010 by the DPRK (Zhu 2012), stopped food shipments by the U.S. into North Korea.

The United States has no embassy in DPRK and the Swedish embassy represents the U.S. interests as warranted (Kirk 2011). In 2011, DPRK asked for continuance of the food aid program due to a continued shortage of food for the people of DPRK (Nanyin 2012). The U.S. considered continuing the food aid and a renewed food aid agreement was being considered until the missile launch by DPRK in April 2012 (Campbell 2012).

Additionally, evidence showed that almost half the food assistance going to the people of DPRK was being diverted for resale in private markets or international Korean restaurants. (Nanyin 2012) (Haggard 2005).

The seemly senseless actions by DPRK require strategic patience (Marcus 2012) from countries such as the U.S. interested in humanitarian conditions in DPRK.

The DPRK has long lasting scars from the Korean war (Lerner 2007) and continues to blame the United States for their poor economy and malnourished people (Lerner 2007). To the DPRK, outwardly displaying the strength of independence is more important than their economy (Zhu 2012) and the needs of its own hungry people. Until recently, DPRK has had an almost self-
imposed political and economic isolation policy continuing since the Korean war (Lerner 2007) (Campbell 2012). Slowly, DPRK is now starting to encourage relationships with other countries.

I witnessed on example of this relaxation of the isolationist policy by attending an International Trade fair (TV 2012) (Figure 5) in Pyongyang where companies from Japan, China, Netherlands, and Germany, as well as other countries displayed their goods. There were many things there such as refrigerators, tires, perfumes, health food supplements, bicycles and medical instruments. It was held in a two story expo building with approximately two hundred and twenty booths. I am not sure how many people attended the trade show but the isles were so crowded you could hardly get to a booth to view the merchandise. Cultural exchanges such as this trade show (Zhu 2012) and the Olympics are becoming a part of the North Korean culture. Business men and athletes can look forward to refrigerators, cars and televisions when they prosper or win. They also understand that if they lose they are a shame to their country and it is rumored that they may, according to defectors, end up in labor camps or slums. (Richardso 2012), (Rutherford 2012)

Recently, Juche has expanded to include the development of scientific and technical exchanges with different countries (Stone 2004) also indicating a major relaxation of the self-imposed isolationism. These modifications to Juche now allow DPRK to have dialogue with scientists from other countries which will enable their own scientist to advance their ideas (Stone 2004). With this “science first” policy, DPRK determined that young people in the DPRK need to know English to communicate better with scientist and science information (Stone 2004) and started teaching English in the early grades in school.

One area of science where DPRK especially needs more education is diseases. Tuberculosis (TB), often a disease of the malnourished is higher in DPRK than anywhere else in the world except sub-Saharan Africa. DPRK has more than triple the number of TB cases than does China and South Korea (Stone 2004), (Perry, Gresham and Linton 2011). Untreated TB kills fifty percent of the people who contract the disease. The World Health Organization (WHO) has doctors in Pyongyang researching malaria and tuberculosis in the DPRK in collaboration with Christian Friends of Korea (CFK), and DPRK scientists. (Stone 2010b)

WHO figures there are 345 cases of TB for every 100,000 people (Perry, Gresham and Linton 2011) in the DPRK. At PUST, six students of the 300 on campus were diagnosed with TB and isolated from the rest of the students during the two months I was there. PUST has a clinic with a full time doctor and often other visiting doctors who come for a few weeks a year. The doctor and his wife are Christians who dedicated their lives to serving at PUST. They are paid, as are their medical supplies and equipment, by Christian donations around the world. The humanitarian efforts of WHO and these doctors provide constructive heath engagements with the DPRK and thus contribute to the globalization of DPRK into the world community. (Stone 2010b), (Perry, Gresham and Linton 2011)
Hepatitis B and malaria, a mosquito born disease, are also health issues in DPRK. People in DPRK often pick pungent wild yarrow to drive away mosquitos so that they are not as susceptible to malaria (Figure 6).

One evening while at the University, the faculty were given a special treat and taken off campus to eat pizza at the North Korea Pizza Restaurant. The pizza was wonderful; the entertainment (singing of old and new Korean folk songs) was delightful. According to the University, this is the only semi-private restaurant in North Korea. One of the faculty ordered Coca Cola and received a bottle of Coca Cola. We were mildly surprised due to the American embargo. After the dinner they took us to see the illuminated newly built high-rise apartment buildings in Pyongyang--high school and college students were dismissed from class for months to help finish these buildings. These impressive buildings stood out in a city, where there are only a couple of illuminated buildings at night; approximately ninety-five percent of the city is dark at night. The only lights noticeable are those within the apartment homes of the people (Yu 2012).

There are few traffic lights in the city and intersections usually have immaculately dressed ladies in blue uniforms when it is cool and white jackets when it is hot. They direct the traffic with their batons. For a city of three million people there were not that many cars and only a few busses and trucks.
Women in Pyongyang are not allowed to drive a vehicle or pedal a bicycle within the city limits. According to our minder they are too reckless (Figure 7). We did see women riding bicycles outside the city (Figure 8). Bicycles are considered a luxury and most people walk or take public transportation. Our minder also explained that women in the city cannot smoke cigarettes, while this is common among men.

I noticed that the women are very conscientious of not exposing their skin to the sun. They often use umbrellas (Figure 9), scarves or broad brim hats to shade themselves including long sleeves and gloves (Figure 10), even when it is hot. Whether the task is pulling weeds on the side of the roadway, sweeping, picking herbs, mopping floors, replacing plaster, doing secretarial work or accounting, the ladies who worked at PUST, bussed in each day from Pyongyang, were always well dressed and professional. To them, working at PUST is a privilege and they are there as a representative of their county.

One day, about five or six weeks after I had been at PUST, the wives of some the university faculty mentioned to me during coffee hour that women don’t wear jeans or tennis shoes and they wondered why no one had mentioned this to me before (Figure 11). I realized the only other pair of jeans I saw while in North Korea, besides on me, was on the teen daughters of an embassy employee while I was waiting in the airport. I brought a few changes of clothes with me to DPRK so I could pack spectrometers, calculators, spinach seeds and biochemistry books in my luggage and just had to continue to

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wear jeans and tennis shoes outside of class. In the cafeteria, the Korean ladies loved to watch me eat with Korean chop sticks (especially noodles) and went out of their way to include me in there conversations and activities.

Our minder and driver took us to market once a week, in PUST’s really nice big blue bus (Figure 12), it was a break from the rest of the week; rushing to the stores with all the other faculty members. We only had ten to fifteen minutes allowed at each of the three or four stores we were taken to each week. So there was never much time to shop. Prices were comparable to those in the U.S. and I still do not understand how people afford clothes in DPRK. Stores take different money, some want Euros or U.S. dollars, some prefer Yuan and others local Korean money.

Once I tried to purchase a Korean bowl (~$3.00) for cereal at the Argentine store and tried to pay with U.S. dollars. I did not realize the U.S. dollars must be crisp and new with no wrinkles or marks. The cashier would not accept my money and other faculty paid for my bowl. This happened several times during my stay and it was always worrisome as to whether my money would be crisp enough for the cashier. Nonetheless it was always a fun adventure. Usually I got nuts, a few vegetables, fruit, peanut butter, bread and cheese to supplement the rice, kimchee (pickled cabbage, radishes, and cucumber with very hot spices), steamed radishes, soybeans, noodles and seaweed stew from the cafeteria. The cafeteria provided all the food you could eat which is a luxury in DPRK. This luxury is completely financed by a Christian Korean church in Houston, Texas which sends about $5,000 a month to pay for the food staples. The last stop each week on our Saturday blue bus shopping spree was to the Tongil open market where we could buy vegetables, fruit, shoes, clothes, dishwashing soap, glue, surge protectors, light bulbs, etc. All the vendors would sit behind tables in narrow crowded isles. I learned to communicate with the vendors on how much something cost. I always paid too much but had a great experience. It was the one chance we had to experience real Korean life outside the university, if the only thing we could do is point to the small calculator the vendor held in their hand and say “one kilogram”. The vendors understood that to be how much is one kilogram of a product. They would key it into the calculator and I could then decide if I could afford the object. Dog meat is a delicacy in North Korea, especially German Shepherd meat. The other faculty members warned me that there would be whole skinned dog meat for sale at the market and to not be alarmed. We were not allowed to take pictures of the Tongil market, one faculty member did once and the whole faculty was banned from the market for three months.
Each Saturday when we crossed the Daedong river to enter Pyongyang to go shopping we would pass by the USS Pueblo (Navy 1967) (Figure 13), the U.S. Navy ship captured in 1968. It is moored on the Daedong river and used as a museum. I had to remind myself of just where I was and of sixty year old Jun Young-Su of Irvine, California who was accused of apostatizing (Kirk 2011) and spent several months in a DPRK jail in 2011. He was released for humanitarian reasons May 2011. (Kirk 2011), (Irving 2011) In August 2009, former president Bill Clinton went to DPRK to gain the release of Laura Ling and Edna Lee, two journalist who came to close to the DPRK boarder while filming a documentary (Kirk 2011). I also thought of Aijalon Gomes a teacher from Boston who was held captive seven months in North Korea because he crossed into North Korea from China without permission. He was sentenced to eight years of hard labor but was released August 27, 2010 to another former U.S. president, Jimmy Carter (Kirk 2011). I remember also, the cyber-attacks by DPRK in 2009 and understood that a regime with hungry citizens and a poor economy will take advantage if possible (Chandler 2011). My husband reminded me that DPRK is “the enemy” and in all my humanitarian efforts, keep this fact in mind.

Engagement of the U.S. with DPRK is however needed to initiate some type of positive impact; finding this positive way to effectively engage without rewarding poor international behavior (Kang 2011) is the issue. I volunteered to teach biochemistry in DPRK because I think science is a way to accomplish this goal. The world admires scientist (Thorson 2012) and DPRK wants to be admired. Scientist are more empirical than ideological (Thorson 2012) and are often willing to go above ordinary circumstances to share scientific knowledge with the world because of the global impact it can have on such things as climate change (N. P. Neureiter 2010), global health, food security, disease and energy resources. (N. P. Neureiter 2010) Currently, scientific collaboration may be virtual and scientists in Japan, England and the U.S. could all collaborate on the same project with North Korea. This way North Korean scientist would not have to leave the DPRK to collaborate. (Thorson 2012) Scientific articles are standards based and peer reviewed and not always subject to the political policies making it easier for the DPRK scientist to engage in scientific communications. (N. P. Neureiter 2010)
DPRK wants to learn from the global scientific community so they can improve their own country. Thus, they seek scientific knowledge (Figure 14) and that gives scientists like me the opportunity to present ideas that would not otherwise be available to students. Before I left PUST, I was able to give a talk on the “Magnitude of Things” from string theory to multiple universes to a large group of freshmen students at PUST. In DPRK’s search for knowledge they are becoming involved as a community of learners with other scientists from around the world who speak a common language of science and bring new ideas to light. If a trust develops with these scientific relationships through common aspirations and understandings then this will help the globalization of DPRK into the world community. Common issues such as water, energy, disease, climate change, forestry, biodiversity, fisheries and flood management are worldwide concerns where each side can show good faith and sincerity in solving scientific issues and open doors of communication.

The normalization of DPRK with the rest of the world may succeed with small steps of local involvement through cooperative teaching and research between DPRK and scientists in other countries. Faculty and students can get a taste of international studies without leaving DPRK if international scientist come to North Korea and teach or give guest lectures. DPRK will only learn integrity in its association with other cultures when it begins to understand the other cultures. In DPRK, people only understand Juche doctrine now encourages the DPRK people to learn from foreign scientists. By learning from scientist and educators in other cultures DPRK will increase their understanding of the world and how they can fit in without so much antagonism and need to show their worthiness and strength as a nation.
I volunteered to come to DPRK through my obedience to God and to let my teaching help build a reservoir of trust and begin to improve the overall relations of DPRK (Figure 15) with the rest of the world and the U.S, God willing. (N. P. Neureiter 2010). However, it will take more than science diplomacy and teaching to change the attitude of the DPRK; it will take a higher power than that of a seasoned diplomat, a dedicated teacher or threats of war to bring DPRK in line with the rest of the world. It seems the only way for change to happen is by the power of God and the Christian witness.

It is with this goal in mind and that of Christian brotherhood that President Kim Chin Kyung (James) and Chancellor Park Chan Mo founded the Pyongyang University of Science and Technology (PUST) in 2010 (Figure 16). They started with 160 elite North Korean students and now have over 300 undergraduate students and 70 graduate students. Today they have spent between 35 and 45 million on this 240 acre complex, most of the money raised from Christian donations around the world but especially from South Korea and the U.S. (Thompson 2012). Currently all the students at PUST are male and come from the elite families around the country. They are hand selected by the government to attend PUST as either a graduate or undergraduate student.

President Kim and Chancellor Park, along with the
DPRK university leader Ho Kwang Il, have worked tirelessly to see that this university succeeds. Funding is always an issue. When the DPRK government makes poor choices which affect the rest of the world, donations to the university drastically decrease. Doon Hoon (Daniel) Ko, from the U.S., is the academic dean for the University and also teaches Chemistry. He and his wife are devout Christians and believe that PUST and faith in God’s power and grace will make a difference to the North Korean people. During the summer Dr. Ko and his wife Debbie do mission work in other parts of the world. Another U.S. faculty member is Wesley Brewer who graduated from Massachusetts Institute of Technology and is dean of the School of electronic and computer engineering at PUST. Dr. Brewer avidly studies the Bible and prays for the Korean people. Dr. Robert Shank, from Iowa, is a plant breeding and genetic engineering specialist and dean of the School of Agriculture and life Sciences. His wife, Linda, also teaches English, both are sponsored by the global mission and service program of the Church of the Brethren. The love of students and God shows in all aspects of their work at PUST.

A British professor, Colin McCulloch (Figure 17), was educated in Cambridge, then gave up a lucrative life to be one of the directors of the university. Dr. McCulloch organizes the English language curriculum and works tirelessly to get students to think critically and use reasoning skills. Dr. McCulloch often leads church services for the faculty.

Dr. Steven Eisenbarth (Figure 18) is a physicist from Baylor University. He is teaching and doing research at PUST. He and his wife have answered a calling from God and spent much of their retirement savings bringing technical education to the students at PUST.

One of the nicest professors I met was Dr. Pak a food nutritionist. Dr. Pak is concerned that the excellent facilities and

Figure 17 Prof. Colin McCulloch educated at Cambridge urges students at PUST to think critically.

Figure 18 Prof. Steven Eisenbarth, an Experimental Chemical and Solid State Physics Professor.

Figure 19 Dr. Pak (right) and DPRK chemistry professor (left) discuss the need to supply the nutrition lab.
students at PUST are at a disadvantage because they need the supplies and equipment to stock the labs (Figure 19). The DPRK counterpart professor at PUST (shown in Figure 19) also teaches Chemistry at PUST. He often spends several hours each day working in the rice fields, before or after working at the university.

These are just a few of the many professors at PUST with amazing intelligence, and a love for God with a servant’s attitude and a calling for PUST. Many of the faculty are ethnic Koreans from South Korea, Canada, England, New Zealand, Australia, and the U.S. Most all of the twenty-nine foreign faculty are Christians who gave up prosperous occupations and teaching positions to answer God’s call to come to PUST and share their scientific wisdom with little or no monetary gain.

I had a nice office (Figure 20), as do all the professors at PUST, including internet service. While faculty at PUST receive no salary, we are provided room and board and I was able to use the internet mostly when needed, email my friends and chat on Skype with my husband almost every morning. The electricity was sometimes an issue but not intrusively so.

In my luggage, I brought two Vernier spectrovis plus spectrometers donated by the Vernier Corporation (Figure 21). I also brought twenty Biochemistry books donated by W. H. Freeman publishers (Figure 22), five Ti 83 calculators and spinach seeds. There was little equipment in the labs and when we used the spectrometers the students were enthusiastic and could actually apply what they had been learning.

In my Biochemistry classes, the students were amazing (Figure 22) and worked hard to please me. At first my Texas accent was a little hard for the students to understand but I used PowerPoints and questioning techniques which helped. These students were so hungry for knowledge they would
sometimes come to class almost exhausted from trying to learn so much so fast. All the material I taught was vetted by the U.S. government, nonproliferation experts and the DPRK (Stone, Pyonyang University and NK: Just Do it! 2010a). The students all appreciated the opportunity they had been given in my classroom and worked diligently to impress me. I inturn worked to be a good steward for my God, the U.S., and the subject I taught. I prayed each day before class to display the fruit of the spirit-- peace, patience, kindness, goodness and understanding because against such there is no law, paraphrased from Galatians (Bible, Galatians 5: 22-23. n.d.).

The graduate students had their own computers (Figure 23) and by the time I left, the students were standing at attention each time I entered the room to show respect and honor. PUST is working to have an exchange program (Stone 2010a) with other countries and the biochemistry students I taught in Figure 23 were able to go on a trip to Beijing for several days to visit universities there. This was a first for DPRK and a wonderful experience for the students. Several students from PUST will attend Yanbian University of Science and Technology in Yanji, China and two students have been accepted to Westminster University in London (Y.-J. Kim 2012) if they pass the English proficiency exam. In just a few years PUST is already providing a peaceful civil modicum of trust among DPRK and other countries (Chandler 2011). PUST is providing an education for the students of DPRK (Figure 24) where they will understand the outside world more objectively (Alton 2010). Knowing that their initial college education is coming from Christian professors thorough the power of God is awe inspiring.

While I was at PUST, Joshua Song (Thompson 2012) brought a digital library for students to use. It contained O.A.R.E online access to research in the environment; Scopes abstract and index database; TEEAL full text
agricultural journals; Wikipedia and some MIT open courseware. These databases were donated to PUST by Christian benefactors for the students to learn agricultural science better in order to increase food production. I took my Biochemistry students to the library to use the databases and found them locked up and not ready for use. With the help of Dr. Ko and Dr. Park the graduate students gained access to these agricultural research papers on enzyme kinetics. This was a great breakthrough. By studying the work of other scientists around the world from articles they choose, the students learned about the science going on in other countries. They gained some respect for the science and may in the future be inclined to learn and interact with other countries (Stone 2010a) with integrity and forethought. This is one small way to build bridges instead of erecting walls (Alton 2010) and also to increase the level of trust (Church 2012) among the DPRK and other countries (Figure 25).

In 2011, there was an International Conference on Science and World Peace held at PUST. (N. Neureiter 2011) It was a five day conference which had such prominent speakers as (Stone 2011b), (Stone 2011b): Lord David Alton, House of Lords in England; Steven Price, a Welsh doctor who does many missions reliefs; Malcolm Giles, an economist from Rice University; Paul McNamara, agricultural economist from the University of Illinois; David Hilmers, NASA astronaut; Randy Giles, Bell labs and Peter Agre, Nobel prize winner in public health.

PUST is integral in bringing DPRK into the global community one small step at a time (Chandler 2011). The person-to-person exchange among faculty and students is invaluable, as is that among the faculty and DPRK counterparts (Kramer 2010). It creates a common ground where the government cannot (C.-H. Kim 2005). However, PUST is not succeeding.
because of the works of people like the faculty who teach there at great sacrifice, it is succeeding due to the mighty power of God.

Each Sunday at PUST there is a non-denominational Church service held on Campus, led by devout Christian professors. We all shared in Christian love and learning, if not in doctrine\textsuperscript{19}. Each Sunday we would start worship service by singing hymns, each in our own language and all at the same time, the hymnal was even in Korean and English. One day we all sang Amazing Grace. It was truly amazing. A few days before I left, a piano arrived for church services. Many of the faculty wives took turns playing the piano for hours.

While in DPRK, I could read freely from my own Bible in church, in my apartment and in Bible study. I even shared in communion services. While apostatizing is forbidden\textsuperscript{19}, the students, staff, and DPRK officials could see the reflection of Christ and the Christian spirit contained no boundaries or rules. Through PUST, many people in DPRK are being exposed to Christian love and attitudes—the aroma of Christ. I was careful not to overtly push Christianity, as were the other faculty members, since students who become Christians are usually sent to prison camps\textsuperscript{1}\cite{Thompson 2012} and the trust among the community is broken. I just have to trust in God’s timing and power. One hundred years ago Christianity was vibrant in North Korea and Pyongyang was called the “Jerusalem of the East”\textsuperscript{2}\cite{Stone 2007}. It is ironic that the campus of PUST is near where Robert Jermaine Thomas, a Welsh missionary died on board ship on the Taedong River in 1866. Remnants of a church dedicated to him were excavated during construction of buildings at PUST.

Though I was confined to the campus and could not come and go as I wished, I had a nice apartment to live in, the opportunity to worship, academic freedom to teach in the classroom and the freedom to walk around the 240 acre campus each evening taking pictures. While at PUST I tried to remember and... (Bible, 1 Peter 2:12 Today’s New International Version) \textit{Live such good lives among the pagans that, though they accuse you of doing wrong, they may see your good deeds and glorify God...} As my spinach seeds were growing in the poor soil at PUST, so is the spirit of God growing in the hearts of the students and faculty there. I was privileged to help make a difference in DPRK through the prayers of my church, support of my home University, science diplomacy and Christian faith combined. Not everything is up to the government of the U.S. or the U.N. to fix. The only one who has the power to make a difference is God and the people he calls to do His work. PUST is making a difference due to the power of God. One day, in God’s time, the people of DPRK will be able to sing Amazing Grace openly even adding the Chris Tomlin Lyrics: (Giglio 2008)

\begin{quote}
\textit{My chains are gone} \\
\textit{I've been set free} \\
\textit{My God, my Savior has ransomed me} \\
\textit{And like a flood His mercy rains}
\end{quote}

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Unending love, Amazing grace.

Amazing grace will come to the people of North Korea in God’s time through His son Jesus Christ. All we have to do is be willing servants when He calls. The saying, often accredited to Edmund Burke “Evil triumphs when good men do nothing” is not happening at PUST “Good triumphs” under God’s almighty power and the people who answer His call.

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