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Research Application Summary

Riding on the rails of opportunities: from Makerere University to Software Languages Lab, Vrije Universiteit Brussel

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Prologue

The last encounter that was elaborately documented was on my experiences as a mobility student at Makerere University, Uganda. The experience was life changing and the door was left open for grabbing the next available opportunity; the opportunity to ride on the rails of academic mobility. Words once confessed are very powerful; you become what you confess. Thoughts are things and they resonate (of course at a certain frequency) with the universe to become true. For a record, I joined Makerere University in Uganda in August 2014 to pursue M.Sc. Data Communications and Software Engineering. The mobility was supported by the METEGA project. The project focused on the Mobility of Engineering and Technology Graduates in Africa – METEGA. For two years, I was at the Department of Computer Networks, School of Computing and Informatics Technology at Makerere University following the footsteps of academic icons in the region. The experiences during my entire stay in Kampala were life changing; the people I met will remain heroes and heroines in my life. I successfully defended my thesis and graduated in February 2017. And now I am on a new journey in Brussels, Belgium pursuing a PhD study. In this paper, I highlight the experience to date.

Key words: Academic mobility, Makerere University, METEGA, Vrije Universiteit Brussel

Prologue

La dernière aventure minutieusement documentée a concerné mes expériences en tant qu'étudiant à l'université de Makerere, en Ouganda. L'expérience a été transformatrice et les portes ont été ouvertes pour saisir une autre opportunité disponible; celle d'évoluer sur les rails de la mobilité académique. Les mots une fois confessés deviennent très puissants; vous devenez ce que vous confessez. Les pensées sont des éléments, et elles résonnent (bien sûr à une certaine fréquence) avec l'univers pour se réaliser. Pour mémoire, j'ai eu l'opportunité de rejoindre l'université de Makerere en Ouganda en août 2014 pour poursuivre mes études de Master de recherche en communication de données et génie

logiciel. La mobilité a été supportée par le projet METEGA, un projet qui est axé sur la mobilité des diplômés ingénieurs et technologues en Afrique. Pendant deux ans, j'ai été au département de réseaux informatiques de l'école d'informatique et de technologie de l'université de Makerere, tout en suivant les pas des icônes académiques de la région. Mes expériences de mon séjour à Kampala m'ont transformé; les gens que j'ai rencontrés demeureront des Héros dans ma vie. J'ai soutenu avec succès ma thèse et obtenu mon diplôme en Février 2017. Et maintenant, je me suis embarqué dans une nouvelle aventure à Bruxelles, en Belgique, où je poursuis une thèse de doctorat. Dans cet article, je reporte mes expériences à ce jour.

Mots-clés: Mobilité académique, Université de Makerere, METEGA, Vrije Universiteit Brussel

From Makerere to Jomo Kenyatta University of Agriculture and Technology (JKUAT)

After Makerere University (see Oteyo, 2016 for details), I resumed work at my University and alma mater, the Jomo Kenyatta University of Agriculture and Technology (JKUAT) and served as the ICT Expert to the Pan African University (PAU) Institute for Basic Sciences, Technology and Innovation (PAUSTI). For your information, PAUSTI is domiciled within JKUAT, though itself is part of the Pan African University - a continental graduate school initiated by the African Union Commission (AUC). The graduate school has operational campuses in Eastern Africa (PAUSTI – in Kenya for basic sciences, technology, and innovation), Western Africa (PAULESI – in Nigeria for life and earth sciences including health and agriculture), Central Africa (PAUGHSS – in Cameroon for governance and social sciences), and Northern Africa (PAUWES – in Algeria for energy and water including climate change). I hear that plans are underway to establish a fifth campus to deal with space sciences. The resumption of duty was way long before the study leave came to a conclusion, but life is all about choices; somehow you lose in one way and gain in another. Simply put, choices have consequences. I thank JKUAT for granting me such a great opportunity to scale the heights of education. I remember meeting with my immediate boss, Prof. Gabriel N. Magoma, and he was very eager to have me back on duty. Prof. Magoma is a man who is so much pro-education and thanks to his numerous demands to know how I was progressing academically that I managed to complete my two M.Sc. programs back to back on record time.

Travelling to Brussels was scheduled for the last day of September 2017. Prior to the travel, my publication for the M.Sc. thesis had been accepted for presentation and subsequent publication at the IEEE Africon 2017 conference that was held in Cape Town, South Africa. The conference was held at the famous Victoria and Alfred (V&A) Water Front. The V&A Water Front has a huge aquarium where you can enjoy seeing sea creatures in close proximity; such a beautiful arrangement for mortals to enjoy nature. So, a week before the departure date, I was attending the conference to present the paper in person. Cape Town has got its own experience, which I have partly documented for the Kenya Education Network (KENET), but will leave it out for now for another day. But it is worth

mentioning that KENET sponsored my trip to South Africa through an award of a travel grant.

Traveling to Brussels

My flight to Brussels was scheduled for 07h55 in the morning from the Jomo Kenyatta International Airport (JKIA), Nairobi. The reason as to why flight departure and arrival times are planned that way is yet to come clear to me; some brains are structured to work with easier to follow time schedules like 08h00. That aside, if you have been to Nairobi before then you will understand that if you do not wish to miss a flight, it is then natural that you find your way to the airport three hours in advance. My little experience tells me that with flights, never come a minute to the departure time; you will get the shock of your life – time means something different to others. So, here I was three hours in advance, did the normal routine check-in requirements and was cleared to wait for boarding time at terminal A, gate number 19. I had two pieces of luggage that were considered small enough to fit in the luggage cabins inside the plane. Being my first time to Europe, it came as a relief – no worry for luggage collection at the carousels, besides being the first time to this new place which I didn't know what goes on where! The first leg of the journey was to commence in Nairobi and terminate at the Schiphol International Airport, Amsterdam. It took a solid 8 hours and 45 minutes to move from Nairobi to Amsterdam, a journey that is more than 7000 miles. I kept myself entertained the entire journey watching movies. Thank God, the plane we took was one of the largest I have ever seen and was so comfortable that I didn't feel the bumpy shaking when piercing through thick clouds. Additionally, we were served with plenty of drinks, snacks and food throughout the entire journey. I guess these guys understood the length of the journey and so were well prepared for the passengers aboard. After all we were flying the KLM Royal Dutch operated by Kenya Airways (KQ). The couple who sat next to me were from Sweden and time and again we kept exchanging brief chats. They were coming from a safari in Kenya and were fascinated by Mombasa, the coastal city in Kenya.

The flight path was almost a curve; from Nairobi, we flew over Lake Turkana through the western tip of Ethiopia and part of Southern Sudan, Khartoum in Sudan, crossed a good part of Egypt, the North-Eastern tip of Libya, crossed the Mediterranean Sea, crossed a good part of Italy, crossed Austria, crossed Germany, and finally entered the Netherlands. We had a one hour waiting time at Amsterdam before we took to the skies again via KLM City Hopper for the second and final leg of the journey to Brussels. The pilot this time round was rather rough! No sooner had we taken to the skies, than we began to descend again to Brussels; the flight was too short to even finish drinking a glass of water – it is the time when you gulp water down the throat just in one sip and an entire glass remains empty.

Arrival in Brussels

On arrival, I was received by my promotor (academic supervisor), Prof. Dr. Elisa Gonzalez Boix. At first when she said she would come to pick me at the airport, I never imagined

it would be the case because it is highly unlikely from where I come from to have a professor pick a student at the airport; such duties are delegated to the so called 'junior staff'. Everything has a first! For those who don't know her, Elisa is a very warm person, very friendly, and always speaking her mind out. Strikingly enough, she never forgets even the nitty gritty details of anything. So here I was in her personal car; at first, I wanted to take the back seat, but then she refused, and I had to take the co-driver seat in the front so that we could talk as she drove me to my new home. In Belgium, they drive on the right-hand side; you keep right in order to be right! We talked all the way; she introduced me to Belgium and Brussels, being the first person I met for the very first time in Brussels. She took me to Patrick and Olgita's family where I was to stay for a month as I found my way around Brussels; their home is on Dailly Avenue, Schaerbeek area. Patrick is from Northern Belgium, but his wife Olgita is from Cuba. Fortunately, there were two other students in the same residence; Angel Scull Pupo and Yunion Pacheco, both from Cuba and together we formed the formidable trio. Later, I came to learn from Patrick, our host, that they had never hosted an African student before; it was their first time and they were looking forward to the experience. Amazing how everything has a first! My first time in Europe, Belgium and Brussels, their first time to host someone from Africa! Patrick speaks English, French and Dutch and so I had no challenges. Olgita speaks French and Spanish and often time we would end up either using sign language or getting a translator. I remember joking that either I learn French or she learns English! Prof. Dr. Elisa handed me over to my very good hosts at 18h30, the evening of that very last day of September 2017.

The next day which was on a Sunday, happened to be the first day of the 10th month same year. You know outside your home tuff everyone assumes you know everything. So, I stayed indoors almost the entire day, but late in the afternoon I went around strolling. Brussels is the capital of the European union and so the city is well planned with an elaborate transport system; buses, trams, and trains. The city is divided into communes and mine was Schaerbeek. It is just right in the middle of the city.

At VUB, Etterbeek Campus

The next day, Monday, 2nd October 2017 I and my two new colleagues made our way to the Vrije Universiteit Brussel (VUB). This is translated to mean the Free University in Brussels; free from religion and politics. The campus is situated in Etterbeek commune. We boarded a tram (electric train) to VUB. Prof. Dr. Elisa had given me her transport card just in case I needed it; it is highly unlikely to pay cash for fare as I was already used to back home. As a traveler, you purchase a card and load trips as you wish and all that remains is just to clock in the bus, tram or train as you may need it. At VUB, first, we went to the International Relations and Mobility Office (IRMO) to declare our arrival and get more guidance on what to do next. At IRMO I was to meet with Stevens whom I learnt had switched jobs and transferred his responsibilities to Francoise. I got my first cheque and my dollar puzzle was solved! The office is situated at Pleinlaan 9, and afterwards we proceeded to Pleinlaan 5 for enrolment. The staff at the enrolment office were more

than helpful; I enrolled in less than one hour. Next, we went to Pleinlaan 2, where the Software Languages Lab is situated. The lab sits on the 10th floor, block F from where you can view the city of Brussels. This was to be my new school and academic home. The lab is within the Department of Computer Science which houses other labs as well. At the lab, I met Prof. Dr. Wolfgang De Meuter; Wolf, as he is commonly referred to, is my academic grandfather. He was the PhD promotor for my master's thesis promotor, Prof. Dr. Engineer Bainomugisha. We had met earlier, though briefly, back in Nairobi and thanks to the project they wrote together with others (including Prof. Dr. Daniel Sila, Prof. Dr. Stephen Kimani and others) that I am now in VUB pursuing academic excellence with the hopes of becoming a refined scientist someday. Wolf speaks his mind bluntly; a spoon is a spoon and not a small spade! I am open minded to learn new antics and skills; just pass them along. In the lab, there is also Prof. Dr. Coen De Roover, whom I had met a month earlier back in Nairobi in a resource mobilization workshop. At least I knew some faces though it was my first time in the lab. The lab has close to 30 PhD students; I was introduced to them and the three other newbies. The same day I arrived in the lab, is the same day I was assigned an office and other resources to commence my scholarship study. Thanks to everyone who facilitated and ensured my smooth landing; Prof. Dr. Wolfgang, Prof. Dr. Elisa, Angel Scull Pupo, Yuniur Pacheco, Francoise, Humberto, Kennedy and all those who helped in one way or another. And of course, Prof. Dr. Coen De Roover with his signature smile and soft affirming advise, "Don't worry, you will experience it at the lab". Thankfully, I am now here in form and spirit to experience it!

Puzzle with Dollars

Some puzzles in life are self-imposed or they just pass unnoticed, but they come back at the right time to haunt. For some reason, I have always assumed that dollars can be used anywhere in the world. Guess it is as a result of how it is held in high esteem back home as a superior currency (economists can attest to this, not me). Shock on me! After travelling all the way from Nairobi, here I was with dollars in my pocket, only to ask for something and I am asked for Euros in exchange. Money is a medium of exchange and every region has their preferred medium of exchange. Getting an open forex bureau on a Sunday was an impossibility. So, I had to wait till a working day to have my money exchanged. Thank God, my promotor had given me a transport card with some trips to use for movement before I acquired mine. Otherwise it would have called for summoning the gods and asking for clean good magic to happen! I had actually thought about converting some cash into euros back in Nairobi, but for some reason I totally forgot! Word of advice, if you are coming to Europe for the first time, please have some euros with you – gems as they call them! Not unless you have a good host who can give a hand at the hour of need!

Having come from the tropics, cold weather has never been an issue. Actually, when temperatures in the tropics start hitting 20 degrees Celsius, people run for jackets and sweaters to keep warm. Here I was, day after day temperatures were ranging between a low of nine degrees and a high of 13 degrees Celsius. The only piece of warm clothing I had carried along was not helping much. And constantly I was being reminded of the

cold winter coming and temperatures would go low than they were already – low on the negative scale. The first Saturday of the 10th month, we went to sportsdirect.com courtesy of Kennedy Kambona and other newbies to Belgium, we purchased at least some clothing that were good enough to condone the cold weather. Kennedy Kambona is a PhD student writing his thesis now. He has been in Belgium for now close to six years and knows quite a lot; he plays our guide and run to person when you need to know about something or some place.

The Mobility

The project granting the mobility to Brussels had four PhD students and one M.Sc. student at the start. There is one other M.Sc. student (Augustus Kamau) at JKUAT. Three students came to VUB and the other two went to Katholieke University Leuven (KU Leuven). The team to KU Leuven is composed of the ladies Elizabeth N. Wafula and Linet Nkirote Mutwiri – both pursuing their PhDs in food science; and at VUB was truly yours, the Lady Mary Esther Toili and Patrick Gakuo Muriuki. Mary is pursuing her PhD in plant biotechnology while Gakuo is pursuing his M.Sc. in Computer Science. Kennedy as usual played a good host and arranged for a coffee date at least for those of us in Brussels to meet and share our little experiences. In Europe people respect others' opinions and feelings to the point no one wants to exert any force or pressure. Huh! Hopefully one day when we are fully settled we will organize for a recap to meet all the members in the mobility.

Rice is widely consumed here and those of us from Kenya of course miss Ugali (Maize meal) and other local delicacies. Though the recipes are slightly different, but the food is delicious! One day, during lunch, I unknowingly served octopus rings and only knew after I had munched all of them. Wolf started teasing me how the arms of the octopus would start stretching inside the stomach. Professors and student share the same restaurant alike. Nothing like, this is for staff and this is for students! We sit and have lunch together with our very good professors, discuss politics with them and do all sorts of other crazy stuff together, but still remain united and differentiated in professor – student relationship. The first day, Wolf bought me lunch, can you imagine (–aside- that was a nice welcome though!). It is absolutely amazing; just a wonderful experience! I hope someday to freely interact with and mentor my students to reach that level.

Before coming to Brussels, I was excited to join the lab and pursue my scholarly work. The motivation is still intact and growing by the day; the expectations are hopeful. The fire started back in Makerere University with Prof. Dr. Bainomugisha advocating for a clear and open mind. The young minds in the lab are just amazing souls to behold and hung around with; Joeri De Koster, Tim Molderez, Jens Nicolay, Jennifer Sartor, Laurent Christophe, Jonas De Bleser, Christophe De Troyer, Kennedy Kambona, Adriaan Leijnse, Ward Muylaert, Florian Myter, Nathalie Oostvogels, Kevin Pinte, Thierry Renaux, Humberto Rodriguez Avila, Mathijs Saey, Angel Luis Scull Pupo, Quentin Stievenart, Janwillem Swalens, Carmen Torres Lopez, Simon Van de Water, Sam Van den Vonder, Nils Van Geele, Maarten Vandercammen, Jesse Zaman, Yunuor Pacheco, Matteo Marra,

and Noah Van Es. And of course, the lab heads (Theo D'Hondt, Wolfgang De Meuter, Coen De Roover, Elisa Gonzalez Boix, and Viviane Jonckers) keeping this entire army of young scientists solidly together.

Preparations to Travel

It was exciting to travel to Europe for the very first time in my life and I was eager and looking forward to the experience. After receiving the affirmation email on my mobility scholarship almost five months prior to the travel date, I immersed myself into preparatory activities. Of course, coming from Africa and Kenya for that matter, you do not just pack and leave. I had to inform almost my entire clan of the new development. Everyone was very excited and of course it served as an opportunity for others to realize how important one has become and start those winded reminders on the role they have played to see you where you are! You see, for Africa, success is associated with higher academic achievements! The sooner one realizes his/her purpose in life the better! My parents and siblings were more than excited that this was finally happening. Next came the visa processing encounter; I had applied for visas to other countries before, but I must admit that each time it is a whole new experience; notarizing documents and medical checkup – at least the doctor reaffirmed and gave me a clean bill of health. The visa was finally granted (after making numerous trips to the visa application center in Nairobi) and I was fully set for the mobility! Finally, came the part for notifying friends of the mobility. Sometimes it is a very necessary undertaking lest they wake up one morning and dash to the police to lodge a report on a missing person! Some may even experience heart attacks and I didn't want to be the cause.

As part of preparatory activities, two workshops were organized for the students; one in July 2017 on mobile application development and another in September 2017 on resource mobilization. The July workshop was facilitated by Jesse Zaman who is now writing his PhD thesis. The workshop focused on crowdsourcing based on his PhD research. The September workshop was facilitated by Prof. Dr. Coen De Roover. As aspiring scholars, one of the critical skill to possess is resource mobilization in the sense of writing proposals for funding and technical support. Besides the skills, the two workshops served to enable the mobility students meet and bond. Thanks to the first workshop that we now have a research group on ICT for Development (ICT4D) back in JKUAT. It is my hope and desire that the group matures fast enough to feed into the Futuristic Africa Network Lab (FANLab) which is yet to fully kick-off and start crawling (Oteyo, 2017). Just like life, everything has a beginning; kids are born, they spend several months before they learn how to crawl – and then crawl until they are strong enough to jump; it is the way of life! Of course, the LCEFoNS programme team both in Belgium and JKUAT were always available to give pieces of advice and directions on what to do next. Thank you all! For your information, LCEFoNS is the Legume Centre of Excellence for Food and Nutrition Security. The programme is a North – South collaboration between KU Leuven, VUB, and JKUAT and focusses on different stages along the value chain of legumes.

Summing it up!

Our universities back in Africa are doing a great job in providing access to higher education. However, there is still room to advance and improve especially in equipping universities with the requisite resources for research and innovation. This way more research and scientific output will be realized, and of course lead to more knowledge economies. Our governments need to refocus their funding mechanisms and have more technical support channeled towards research in universities. This way more inclusive research ecosystems will be realized to address the many challenges facing the continent. Amazingly enough, these challenges are actually opportunities for innovation. The experiences we amass from outside the continent can be amalgamated into channels for nurturing more talent and unifying the efforts for capacity building back in our respective countries. Our universities need to collaborate in equal measure and zest they do with those beyond our borders. To the young people, when an opportunity to gain experiences knocks on your door, grab it; it may be the fairy breeze blowing you to achieve your dreams and purpose in life – dreams come true once you follow them and there cannot be any other better teacher than experience. I have just commenced the wondrous escapade to new experiences; I will be right back to share them vividly at the opportune time! For now read my earlier study (Oteyo, 2016), that of METEGA (Banadda *et al.*, 2016) and my upcoming publication (Oteyo, 2017).

Acknowledgement

The motivation for this paper came from my earlier paper sharing about the METEGA project, which facilitated my MSc study at Makerere University (Oteyo, 2016), and the effort of RUFORUM to support training of students in different universities across Africa.

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