**HIGHLIGHTS**

**November 2017**

- **Visitor & Co-Host Spotlight:**
  Keabetswe Tebogo Ncube from South Africa, and Co-Hosts Curt Van Tassell and Ben Rosen, USDA/ARS Animal Genomics and Improvement Laboratory in Beltsville, MD

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The US Forest Service International Visitor Program (IVP) facilitates participation in a wide variety of professional and educational exchanges, which encourage scientific collaboration and discovery, increase intercultural understanding, and promote cooperation among people of many cultures and countries.

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**VISITOR & HOST SPOTLIGHT:**

**Visitor** Keabetswe Tebogo Ncube from South Africa & **Co-Hosts** Curt Van Tassell and Ben Rosen, USDA/ARS Animal Genomics and Improvement Laboratory in Beltsville, MD

**Hosts: Curt Van Tassell & Ben Rosen**

Please tell us a bit about yourselves.

**Curt Van Tassell**—I grew up on a dairy farm in southeast New York near a town called Millbrook and received my undergraduate degree from Cornell University. While at Cornell, I found that genetics combined my skills and passions – dairy cattle, computers, and math. I did my graduate work in animal breeding and genetics (essentially, quantitative genetics) at Iowa State (MS) and Cornell (PhD). I have been with the Agricultural Research Service (ARS) since I finished graduate school 23 years ago. I have gradually transitioned and work at the interface of genomics and genetics.

**Ben Rosen**—I have been a Computational Research Biologist working on cattle, goat, and sheep genomics at ARS for 3 years. I grew up on Long Island, New York and my first research position was in a plant physiology lab as an undergraduate at Harvard University, where I earned my Bachelor’s degree. I continued working on plants for my PhD at the University of California -Davis where I combined an interest in international development with my interest in genomics by working on disease resistance and adaptation in legumes. I transitioned to an animal scientist during a postdoc at ARS working to understand how goats have managed to adapt to the many varied climates they thrive in.

What motivated you to host an international visitor, and specifically Kea?

**Curt and Ben**—Our group has an increasingly productive relationship with scientists in Africa through a network called the African Goat Improvement Network (AGIN). We have made connections with 30 different scientists in 23 countries. One of the goals in working with this group is to help train the next...
generation of African scientists. Kea’s supervisor, Farai Muchadeyi, expressed an interest in strengthening that collaboration as part of a new project on community-based breeding in South Africa. As a result, Kea and her colleague, Prescilla Mohlatlole, are spending a year working in our ARS lab in Beltsville, Maryland. It creates a strong sense of satisfaction by having an impact in the developing world. Once Kea returns home, she will be able to translate science into action.

What has been the most rewarding part of hosting an international visitor?

Curt and Ben—It is always fun learning about differences in cultures around the world. We have had many visitors, typically from Brazil, and it is really fun to look at life through their eyes and to get a glimpse of their culture. Students bring with them enthusiasm and a love of learning. Many hosts have lost that joy so being around these students brings us renewed energy.

Curt—Getting to know Kea has been a great pleasure. Her sense of humor and general attitude lightens the atmosphere in the office. Working with Kea is a joy and she has the wonderful ability to brighten any room she walks in. She makes it easy to say yes and is very inclusive with people. She reminded me that we need to actively recruit visitors to enhance our research team. I am already working on bringing new visitors in the future!

Ben—I am still new to hosting international visitors; however, one key reward I have experienced is to sit down and interact with our students. It is enriching to teach others and explain why you do things the way you do. It makes you really think about your process and how you can improve.

What have you learned about US American culture while working with Kea?

Curt and Ben—it has been great to see how Kea fits right in with our lab. We come from very different cultures yet people are people. For the most part, there is no difference working with a student from South Africa verses the USA. I do believe that the key to our success with this exchange is that Kea and another exchange visitor, Priscilla, travelled together and are working together. Also, a big thanks goes out to Jennifer Woodward-Green from the Office of International Research Programs (OIRP) who was tremendous with helping Kea in finding a comfortable apartment that has easy public transportation access.

Curt—it is also amazing to see how all of the staff at the lab are generous with their time. I hosted a barbeque dinner a while back and everyone pitched in to accommodate transportation for Kea. It was a great fun night!

What are your favorite memories of working with Kea?

Ben—Our lab typically shares treats and snacks with each other. One day, Kea walked in with chicken feet, prepared by Prescilla Mohlatlole, to share with everyone in the lab—it was certainly memorable! The texture was very gelatinous right down to the claw...I did not manage to eat the toe nail.

Curt—it was an experience to watch Ben snack on chicken feet!

What advice would you give to future hosts?

Ben—we take it for granted being from a car culture, and it is not easy to navigate and move around without one. I think it is important for hosts to keep that in mind when they are preparing to welcome an international visitor and helping them decide on where to live. They should also provide assistance and guidance on how, not only, to move around the labs, but to, also, take advantage of being so close
to Washington, DC and all of the great sites and museums.

Curt—Jump in with both feet and host a visitor! The experience is so rewarding, enjoyable, and I have grown from these experiences. It is true that navigating all the administrative requirements to begin working can be a challenge, especially if you do not stay on top of it; however, the international visitor’s quality of life will be impacted by where they are staying and you want them to have easy access by walking or transit to experience US culture and activities. We found it helpful to designate one person to pay attention to all the little details regarding paperwork and housing.

VISITOR PROFILE:
Keabetswe Tebogo Ncube

Please tell us a bit about yourself. I’m a PhD student at the Agricultural Research Council, Biotechnology Platform (ARC-BTP). I am receiving a PhD in Genetics with the University of Kwa-Zulu Natal in South Africa under the supervision of Dr. F.C. Muchadeyi and Mr. E.F. Dzomba.

I’ve always been passionate about animals and science from childhood. My parents had livestock and dogs so I used to help out a lot and one of my fun childhood memories was bottle-feeding goat kids and going to my parents’ animal farm.

I joined the ARC-BTP in 2011 as an undergraduate student studying Bachelor of Technology (BTech) in Biotechnology. That is where Dr. Muchadeyi introduced me to the very interesting animal genomics studies. I started off with a project in chickens and then I joined the goat genomics projects in 2013. It was love at first sight! My love for goat growth grew more while working on the growth hormone gene and maternal lineages of goats. This made me want to continue this research further and that is where my PhD project was birthed. I just completed a fun-filled goat growth trial and here I am in Beltsville in one of the super coolest Animal Improvement Laboratories.

How did you get connected with your host lab and come to the US as an exchange visitor? Since 2013 my supervisor, Dr. Muchadeyi, has been part of The African Goat Improvement Network, which is a network of African scientists in collaboration with scientists from the United States Department of Agriculture, Agricultural Research Service (USDA/ARS), Feed-the-Future (FtF) initiative supported by USAID, United States of America, and other countries carrying out research to develop a resource population of genomic DNA samples representing a diverse set of locally adapted goat breeds from Africa. Dr. Muchadeyi, together with her team, has been participating in activities related to this program.

As part of capacity building for the USDA/AGIN program, we were invited for a one-year research visit in the Animal Genomics and Improvement Laboratory in Beltsville, Maryland. Dr. Curt Van Tassell and Dr. Ben Rosen are hosting and training us in bioinformatics skills relevant to our PhD projects and related to the AGIN program overall.

We gladly and warmly accepted the invitation as a great opportunity to learn and use the knowledge to improve ourselves as an organization, as individuals, as well as the communities we work with.

What have you learned so far? I came here as a novice in bioinformatics. It used to be complex and confusing to me, but now I can say I am almost a guru! I have gained, and am still gaining, so much bioinformatic experience and learning...
about some of the new techniques that are faster and more effective in data analysis. This means the time spent in data analysis and getting actual solutions is getting less and less, which is good because we get to improve livestock and apply solutions faster.

I have learned the latest developments in RNA Sequencing data analysis packages such as HiSat, Ballgown, StringTie which are different from, and are much faster, than the traditional Tuxedo suite packages. I have learned about the ADAPT-Map project and how I can incorporate goat data into a google earth map and take a tour on that to get an idea of where the goats are from, climatic conditions, farming systems, etc.

I was also presented with the opportunity to learn and work on a dairy cattle project, which is also eye-opening as I have not been familiar with dairy genomics. I am learning new techniques and I am also learning more about milk, which is super cool.

This lab is a wealth of knowledge.

You attended the 4th annual IVP International Science Leadership Forum this year, can you please share your most memorable moment and why you wanted to attend?
My most memorable moment was the Washington, DC tour, of course (who doesn’t like sightseeing?!). Getting to learn about American history, not just from Wikipedia, but also being at the monuments and seeing how history evolved and how America came to be, it is beyond special. It is like being a part of the events and reliving history.

The talk by the American Association for the Advancement of Science (AAAS) on science in policy-making and how science plays a role in the government was, for me, the most interesting lesson. Also, how we can structure our research in a way that is understood by the policy makers. To know that, as a scientist, your research can actually be debated/discussed in Parliament and used in society as a policy, that is beyond cool. One gets the courage to do more. It fuels the passion and the love for science that we are not only in labs feeding science journals, but we actually make a difference in the day to day life of ordinary people.

What advice do you have for future Forum participants?
Go for it, don’t hesitate. It is the best thing you can ever do for yourself. Always have an open mind and a willingness to learn and improve in your career and as an individual. How will you know if you don’t try?

What has been your favorite American food that you have tried since being here?
The food is honestly the same here as it is in South Africa; however, the intensity of the flavors, especially cheese, is much more here. I am not sure if there is any cheese left after any American food outlet puts it on their food, be it pizza, cheese puffs the cheese is all there! The crab soup by chef Dr. Gordon Spangler is out of this world. The smell, the flavor it is beyond delicious.
Why should researchers participate in international internships and exchanges?

“The comfort zone is a beautiful place where nothing grows”, so personally I believe that the exchange program forces one to experience a certain type of growth that one cannot gain by just reading. It brings about personal and career development for participants and encourages/enforces practical application of knowledge and knowledge-sharing when one gets back home.

Again, it is a good opportunity to stimulate collaboration and research efforts. Be it to start a new collaboration or strengthen the relationship between the two organizations of an existing collaboration.

ARE YOU HOSTING A FUTURE PRESIDENT?

Hosting an international visitor takes a lot of preparation, planning and care for details. The payoff, however, is tremendous. Hosts and visitors, alike, are enriched with expanded world views resulting from the exchange of ideas and culture. They also build networks of lifelong friends and professionals around the world.

When reflecting on the outcomes of your exchange, did you ever stop to think that you might be hosting the future president, prime minister, or leader of another country?

The J-1 Exchange Visitor Program is part of a broader suite of international exchange programs administered by the US Department of State Bureau of Educational and Cultural Affairs (ECA) to engage future leaders around the world and build positive relations with the United States. Visitors from over 200 countries and territories come to the United States each year, while thousands of Americans also participate in programs abroad. It is no surprise that program alumni include several prominent worldwide leaders. Former UK Prime Ministers Tony Blair and Margaret Thatcher, former Kenyan president Mwai Kibaki, and several former prime ministers and presidents of other nations including South Korea, Haiti, and Colombia are among the 565 current or former heads of government from all continents who are alumni of these programs. Other alumni have gone on to become Noble Laureate scientists and famous artists. Explore these and other interesting statistics and fun facts on the ECA website: https://eca.state.gov/impact/facts-and-figures.

Whatever career path your visitor follows after being in the United States, the important takeaway is their positive impression of the US, their enhanced skills, and the people-to-people relationships they will be shared with and influence others back home. The ties created may span business, science, and politics, and promote collaborative approaches to solving problems and building a better future for all. Over time, as exchange program alumni move up in their careers, possibly into positions of leadership and decision-making, their experiences in the United States contribute to an overall goodwill that will support shared interests. The impact is priceless!
The 4th Annual IVP International Science Leadership Forum, held August 21-24, brought together 13 international interns and visiting scientists from China, Germany, Serbia, Spain, Sweden, and South Africa to learn more about USDA, the Forest Service, and Washington, DC. Coordinated by the International Visitor Program (IVP), the Forum allows international visiting scientists and students, hosted by USDA and the US Forest Service J-1 Exchange Visitor Program, to meet in the nation’s capital to network and learn more about the federal government, history, and culture of the USA.

This year’s Forum participants explored natural resource management, agriculture, and research in the USA and in their home countries through interactive sessions and meetings with senior leadership. According to the participants, the greatest highlights of the Forum included meeting US Forest Service Acting Associate Chief Kathleen Atkinson, visiting Smokey Bear’s Office, and presenting posters about their home countries and the projects they are working on with their host units during a reception at the US Forest Service headquarters.

“Governments cannot substitute for the bonds that develop between individuals of different countries when, through mutual endeavor, they experience the joy and intellectual satisfaction of learning about one another and working with each other.”

-Former Senator Richard Lugar

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Joanne Carney and Sean Gallagher of the American Association for the Advancement of Science (AAAS) offered their insights on where scientists and policymakers intersect as part of their interactive session about US government structures, policymaking, and budget processes. Dr. Pace Lubinsky of the Foreign Agricultural Service and Dr. World Nieh of the US Forest Service Research & Development division each delivered sessions on the international trade of agricultural and forest products that connected local practices to global activities and issues.

“...The program is a mind-opening experience and a great opportunity to meet people.”

- 2017 Forum Participant

The once-in-a-century opportunity the group had to view the solar eclipse from the National Mall during a half-day historic Washington, DC tour was also quite spectacular!
The Forum also included a special joint session on Protected Area Management that was attended by the Forum participants and a US Department of State International Visitor Leadership Program (IVLP) delegation of 22 park and protected area managers from around the world. Together, twenty-nine nationalities were represented at this session. Tinelle Bustam, Toby Bloom, Sean Wetterberg, Dusty Vaughn and Lynette Miller of the US Forest Service Recreation, Tourism and Public Services team offered an extensive overview of visitor use and impacts, the complexities of multiple-use management, and the opportunities they have found to innovate and address challenges by using technology and expanding partnerships.

On the final day, the Forum participants were the star attraction. Each presented posters about their projects here in the USA and shared information about their home countries and cultures during an open reception. US Forest Service headquarters staff who attended had an opportunity to learn about a broad range of topics such as Cork Production in Spain, a study of our National Wild and Scenic Rivers Systems that will contribute to the plan for the Qingzhu National River in China, restoration work on Wisconsin’s Pine Barren Landscape, and some key cultural practices and values that are woven into Swedish forest management. In a peer learning session earlier in the week, the participants exchanged pointers and practiced using a variety of different communication techniques with one another to prepare for the event.

The program ended with a program overview and a brief visit to USDA Headquarters and the offices of Acting Deputy Under Secretary for Natural Resources and Environment, Dan Jiron, and the Secretary of Agriculture, Sonny Perdue.

After returning to their Forest Service and Agricultural Research Service host units, participants and their hosts, alike, remarked that the program sparked many conversations about management practices, culture, and policy. As a whole, the Forum was truly successful in meeting the J-1 Exchange Visitor program goals of fostering educational and cultural exchanges, promoting mutual learning, broadening perspectives, and creating lasting friendships.

Applications for the 2018 IVP International Science Leadership Forum will be available in May for the August 2018 program. Questions about the program can be sent to internationalvisitorprogram@fs.fed.us.

“… I would highly recommend the forum to future international visitors because it is a great opportunity to visit DC, meet high officials and, especially as a young professional, to get in touch with professionals from other countries and to network with them.”

- 2017 Forum Participant
PAYING HOMAGE: HISTORY AND CULTURE THROUGH WORLD CURRENCIES

Have you ever wondered what a one-eyed pyramid is doing on the US one dollar bill? Did you know that Britain changed who is featured on a ten pound note this year? Currency and the people, places, and icons represented on it can tell you a lot about the history of a country and what it values. Let’s take a look at some notable notes from around the world!

A ONE DOLLAR BILL IN THE UNITED STATES

In the United States, the most common currency is a $1 bill. Many people are familiar with the man that appears on the front of the bill, our first President of the United States, George Washington. But few understand the drawings on the back which represent the Great Seal of the United States. The front of the seal depicts a bald eagle holding arrows and an olive branch to show war and peace. The eagle’s shield has 13 stripes and above its head float 13 stars. The number 13 is important in US history because the original 13 colonies banded together to form the country. This is reinforced in the motto that appears on the ribbon the eagle is holding in his mouth, which reads “E Pluribus Unum” in Latin or “out of many, one.” The pyramid on the opposite side of the seal also references the 13 colonies as it is shown with 13 steps. It remains unfinished, much like the country at the time the seal was adopted by congress in 1782. The pyramid was meant to symbolize strength and duration while the Eye of Providence above it represents a higher power watching over mankind.

A TEN POUND NOTE IN GREAT BRITAIN

On September 14, 2017, a new £10 note came into circulation featuring a portrait of British author Jane Austen. Austen is most famous for her novels published in the early 1800s such as Pride and Prejudice, Sense and Sensibility, and Mansfield Park. These novels remain popular and have been adapted for film, television, and theatre. The £10 note heavily references Pride and Prejudice with an illustration of Elizabeth Bennet, the main character, and a quote from the novel, “I declare after all there is no enjoyment like reading!” As a security measure, the note has been printed with an image of a quill that changes colors between purple and orange when the note is tilted. Also depicted is Winchester Cathedral, where Austen was buried in 1817. This year marks the 200th anniversary of her death.

A 100 TRILLION DOLLAR BILL IN ZIMBABWE

Though no longer in print, Zimbabwe’s bank note of 100 trillion dollars was once the highest denomination bank note in the world. Printed on these bank notes was an image of three gigantic rocks perfectly balanced on top of each other, known as the Balancing Rocks. Naturally occurring rock formations like
this one are common in Zimbabwe and can be seen in a national park just outside of Harare. The rocks are sometimes used as a metaphor for the importance of balancing competing priorities such as environmental protection and development.

Due to massive inflation, the 100 trillion dollar note was worth less than one US penny.

### A 100 THOUSAND PESO BANKNOTE IN THE PHILIPPINES

The largest legal banknote in the world was issued by the Central Bank of Manila on May 22, 1998. The banknote measures 22 x 33 cm and was printed in Munich, Germany. Only 1,000 banknotes were issued as a special commemoration for the 100th anniversary of the first declaration of Philippine independence from Spanish rule. The sides of the note feature scenes from two important moments in Philippine independence, the Cry of Pugad Lawin in 1896 and the first public reading of the Declaration of Independence in 1898. These banknotes exist as a collector’s item and were sold for ₱180,000 when they were released though they are likely worth much more today.

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**HOLIDAY WORD SCRAMBLE**

Unscramble the letters to find words which have to do with the holiday or winter season. (answers at the bottom of this page)

1. Rats _________________
2. Wamsonn ______________
3. Scamsthir ______________
4. Naast _________________
5. Tgfi _________________
6. Aegln _________________
7. Eter _________________
8. Hlgsit _________________
9. Lelbs _________________
10. Aledcn _______________

**Holiday Word Scramble Answers:**

1. Star  
2. Snowman  
3. Christmas  
4. Santa  
5. Gift  
6. Angel  
7. Tree  
8. Lights  
9. Bells  
10. Candle
ON THE HORIZON
US Holidays and Special Occasions

Sunday, November 5:    Daylight Savings Time Ends
                      (turn clocks back 1 hour)

Friday, November 10:   Veterans Day Observed
                      (Federal Government closed)

Thursday, November 23: Thanksgiving Day
                      (Federal Government closed)

Monday, December 25:   Christmas Day
                      (Federal Government closed)

Monday, January 1:     New Year’s Day
                      (Federal Government closed)

Monday, January 15:    Martin Luther King Jr. Day
                      (Federal Government closed)

If you are a visitor to the US, ask your American hosts, friends and colleagues how they celebrate these holidays.

Hosts, we encourage you to use this opportunity to share an aspect of American culture with your visitor(s)!

The US Forest Service International Visitor Program is on Facebook! Please visit: www.facebook.com/USFSIVP.