

Post Colloquium Report



Golden Gate Highlands National Park

16 and 17 November 2016

THE EVENT



The University of the Free State's Afromontane Research Unit, based at the Qwaqwa Campus, held its first Colloquium on 16 and 17 November 2016. The stated purpose of the colloquium was four-fold: (i) to showcase the ARU; (ii) to provide a platform for active researchers in the ARU to present their work; (iii) to build networks; and (iv) for ARU researchers to obtain a more global overview of current montane research. Given that the ARU is still in its relative infancy (formally established in 2015), the goals were unashamedly primarily focused on benefits for the ARU.

A total of 94 delegates participated in the Colloquium. The fact that 34 postgraduate students were fully involved in various aspects of the event, was particularly pleasing, and shows that there is a vital interest in research among the young people of the University.

The colloquium programme featured input from 21 speakers; of these four were from abroad (the keynote speakers), six from other institutions in South Africa, and the remaining speakers represented staff and students from the UFS. Bringing together leading experts in mountain research, provided an excellent opportunity for networking and sharing experiences.

The first ARU Colloquium was primarily sponsored by the UFS Directorate for Research Development (DRD) and the National Research Foundation (NRF). The contribution from the NRF towards costs related to the international keynote speakers was gratefully acknowledged.

The event was preceded by the first meeting of the ARU Advisory Board, held on 15 November. This provided a valuable launching pad for the colloquium, and the advice and guidance received from the esteemed Board members, as well as from the deliberations emanating from the Colloquium will provide very important strategic direction for the ARU as it moves forward.

COMMENTS

It was a positive experience from all perspectives. I enjoyed very much interacting with researchers and UFS students and hearing the fascinating diversity of research. I hope we will stay in touch and will be able to develop joint activities in the near future.

Dr Henri Rueff, University of Basel & University of Bern

I am so highly honoured to be invited to this first Colloquium of ARU, which I can already see possessing those essential ingredients required to help it evolve into a unique institution. I have, myself, learnt a lot from this Colloquium, which provided a very useful platform though its format, wonderful mix of themes and speakers, discussions and excursion trips. I can easily say that it has been one of my best experiences of international meetings so far. I am really looking forward to anything I can do to strengthen the research, practice and policy pursued through ARU in the future.

Dr Reetu Sogani, Chintan, India

I must say that I thoroughly enjoyed the entire ARU event. I have been to so many conferences and workshops over the years but this one must have ranked as one of the very best for so many reasons: very well organized and wonderful hosting, a great bunch of people- I liked the interactions with students, local staff and international visitors - this was a wonderful combination. The venue was of course very special to me as I am so fond of the area and it was a relaxed setting (much nicer than many rather hectic conferencing venues which can be stressful!). You really did a marvellous job. The standard of work coming from Qwaqwa campus is really high and I had just as much (if not more) to learn from others than what I could share - but am of course open to ways in which we can assist going forwards and welcome collaboration.

Prof Stefan Grab, University of the Witwatersrand

It was the most exciting conference I ever attended!
Mr Ernest Daemane, SANParks

COLLOQUIUM PROGRAMME



The colloquium programme was arranged according to the three current ARU Themes – viz.: Conservation and sustainable usage of Afromontane biodiversity; Living and doing business in Afromontane environments; and Sustainable futures for the people of the Afromontane. All sessions were held as plenary sessions, with time for debate and discussion.

In addition, poster sessions were held. This provided the opportunity for researchers and postgraduate students who were not presenting in the plenary session, to present their work.



The post-conference programme included the option to participate in a number of field excursions (on the afternoon of 17 November, and full day on 18 November). The field excursions included:

- Basotho Cultural Village and Golden Gate
- Katse Dam, Lesotho
- Lephofung Caves, Lesotho
- Unique agricultural sites in the eastern Free State.



The social programme included a Speakers' Dinner in Clarens on the evening of 15 November, which gave all speakers the opportunity to meet each other and network. The Colloquium Dinner for all participants, was held on 16 November at the Golden Gate Hotel.



COMMENTS

I just want to thank you SO much for enabling me to attend an excellent colloquium. The calibre of presentations, but more important, the enthusiasm of the scholars was most impressive. I have attended several such events in my life time and this one will live with me as a special event. Please let me know how I can assist further in placing this work on the national and hopefully international agenda.

Prof Coleen Vogel, University of the Witwatersrand

I enjoyed the the colloquium, as well as the field excursion to the Basotho Village. It was such a fantastic experience. Thank you for affording me the opportunity to participate at such a memorable conference. I wish to remain a "partner" of the ARU.

Mr Peter Chatanga, National University of Lesotho

I am looking forward to partnering with ARU. Its a wonderfully exciting opportunity.

Ms Sue Janse van Rensburg, SAEON

We are what we are because of the ARU. Your support for us is always appreciated. You entrusted us by giving us a chance to show case at this important event. I will forever cherish having taken part in making the colloquium a success. Your continued support is appreciated and will keep working hard to bring the ARU to international recognition and to to the world at large. I thank you.

Mavis Mbiriri, PhD student, Department of Geography

Your colloquium was an immensely worthwhile occasion! Looking very forward to continued collaboration.

Prof Linda Theron, University of Pretoria

COLLOQUIUM SESSIONS

The positive tone of the ARU Colloquium was set during the introductory session, chaired by **Dr Glen Taylor**, Senior Director for Research Development at the University of the Free State. Standing in for Prof Prakash Naidoo, who was recovering from surgery, Dr Taylor delivered the opening address. He emphasised that the colloquium, like the ARU, was a multidisciplinary event, involving speakers from a range of disciplines and interests. He expressed the hope that this cross-fertilisation of ideas would lead to new opportunities and ideas for the ARU and its researchers, and that new friendships and collaborations would develop.



Dr Greg Greenwood, the Executive Director of the Mountain Research Initiative (MRI) based in Switzerland, delivered the overall keynote address, on the topic *Moving mountain research forward in South Africa: Reflections after a decade of the Mountain Research Initiative*. Drawing on his long involvement with the MRI, he gave a thought provoking and challenging address, beginning with discussing the role of a university in balancing knowledge and engagement. The university needs to engage in society and respond to urgent societal needs; but it is in its role of asking questions that the university stands a little apart from society, in attempting to understand the bigger picture of how the world works.

Moving onto his perceptions of the ARU, Dr Greenwood emphasised that he fully concurred with the three themes which had been identified, but stressed these should not be disconnected from each other but rather arise from a deeper understanding of the whole system of the Afromontane region. He suggested that an adaptation of the Global Land Project analytical structure could prove to be a viable model for the ARU, emphasising the fact that the social systems and ecological systems which form part of the model, are in constant interaction through the application of practices by the social system, which in turn receives goods and services from the ecological systems. He stressed that it was necessary for the ARU to formulate some framework to understand the social system of the Afromontane, and this could require using models that exist outside of the geographic space, based on an understanding that the social system is made up of agency and structure, and adaptations of Elinor Ostrom's conceptualization of Social-Ecological systems (SES). Within such a framework, the ARU can respond to some of the real world conditions evident in the Afromontane, and *inter alia*, address issues related to women and youth, understand the links between urban and rural, analyse the variety of livelihoods, understand the flow of money, understand the legal structures and the norms that guide actions, describe how things are now and sketch how they might be in future. Such an approach will require reaching out to those who work in these fields and a willingness to engage in long-term development of knowledge. This will require forward-looking models and long-term detailed projects. He suggested that a starting point could be a geographic information system for the Afromontane that stores observations on all important components of the system, includes code that allows modelling of important features of the system that are difficult to observe empirically, and thus creates the capacity to project future conditions, given current conditions and scenarios of human intervention.

The model used/adapted must quantify spatially the central links between the social and the ecological in terms of both the resource use practices applied across space to ecological systems, and the ecosystem goods and services that arise from various places within ecological systems to benefit certain actors within the social system. This approach would require a long-term commitment from the University to the Afromontane, and a framework that develops through on-going inter- and transdisciplinary discussion; uses both GIS technology and SES concepts; provides a place for data of all types from all disciplines; accretes knowledge arising from individual projects; supports the proximate concerns of society; and advances the ultimate goal of deeper understanding.

In closing, he reiterated the potential importance of the ARU, which should have certain stature and visibility to be seen as an important actor.

Session 1

Session 1 of the colloquium was devoted to the theme **Conservation and sustainable usage of Afromontane biodiversity**, and was chaired by the Theme Coordinator, **Prof Aliza le Roux**

In his presentation on *The Mountain Futures Initiative: Seeds of a good Anthropocene*, the keynote speaker for the session, **Prof Xianchu Xu** of the World Agroforestry Centre in China, explained that the Mountain Futures Initiative was aimed at identifying new ways to generate positive social and environmental change for mountain landscapes and peoples. A transdisciplinary approach had been adopted whereby seeds are understood in all their dimensions (technical, social, economic) and analysed within their social-ecological context. This involves a multi-stakeholder process of co-design, co-learning and co-production among researchers, practitioners, authorities and beneficiaries, and it was inclusive of a plurality of knowledge systems, as well as the values and visions for desirable mountain futures which includes livelihoods resilience, ecological integrity, and social justice. The key action areas of the Mountain Futures Initiative are biodiversity and sustaining ecosystem services; agricultural production and food system; rural-urban migration and urbanisation; and climate change.



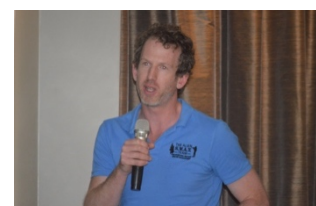
The first guest speaker in the session, **Prof Stefan Grab** from the University of the Witwatersrand, focused on climate change in his talk on *Mountains of change: Reflections on environmental change in the Drakensberg Alpine Centre*. He explored evidence for past climate and environmental change in the High Drakensberg, and presented some arguments and challenges for quantifying recent and current climate change for the Drakensberg Alpine Centre. He stressed that while it was clear there had been higher oscillations and amplitudes during the past 3000 years, more recent decadal climate change remained uncertain due to inadequate climate data. He cautioned that perceptions on severity of drought and mildness of winters varied from person to person, so care should be taken when interpreting observations. He postulated that the greatest threat might not be climate change, but rather rapidly rising human-induced pressures such as grazing, trampling, burning, road construction, dumping, quarrying, erosion, and commercial activities such as mining and tourism. He made a plea for stronger regional cooperation, better conservation planning and community involvement, and stronger environmental legislation and enforcement.

Dr Samuel Adelabu, of the UFS Department of Geography, followed with a presentation on *Remote sensing of the Afromontane: Opportunities and limitations*, based on his ARU-supported research project. He highlighted the complex socio-ecological dynamics in African mountain regions, and the fact that the quality of mountain biodiversity and ecosystems catchments are rapidly deteriorating. Monitoring of large and remote areas was only economically feasible when supported by remote sensing techniques. An Earth Observation Unit was currently being developed, in collaboration with the South African National Space Agency (SANSA) and SANParks.



Teboho Mofokeng from the UFS Department of Zoology and Entomology, presented research results from his postgraduate studies, in a presentation titled *Plasmodiid infections of Afromontane raptors in the Eastern Free State*. The highlight of the research, which focused on two raptors in the Golden Gate Highlands National Park – the Cape Eagle Owl and the Spotted Eagle Owl – was the identification of two new malaria species in Afromontane raptors.

Following this, in his presentation titled *King Solomon's Mines: The biodiversity treasure troves of Africa's mountains*, **Dr Ralph Clark** from Rhodes University, made a strong case for investigating the unique biodiversity of Africa's mountains. He enthusiastically described the huge



potential to study endemism in southern Africa, which, while not being 'glamorous' research, provided many possibilities and key questions for the Afromontane, with scope for continental collaboration. He challenged ARU researchers to influence current theories through African mountain research.



In his presentation on *Invertebrate research in an Afromontane grassland park as a model towards improved conservation management*, **Dr Emile Bredenhand**, from the UFS Department of Zoology and Entomology, described how his group of researchers was monitoring insect populations as indicators of various factors for use within conservation management and critical decision making, particularly with regard to ecosystem health, restoration success, early detection of ecological disturbances, biodiversity, and even climate change.

Picking up on the topic of climate change, **Mavis Mbiriri** from the UFS Department of Geography, discussed her postgraduate research on the *Characterization of agricultural droughts in the Eastern Free State montane bioregion*. Her research aimed to determine the changes in climate patterns in the Free State's mountain region between 1960 to 2013, and to analyse the evolution of agricultural droughts in the Free State's mountain region. She reported that her results had shown that there has been an increasing trend in mountain areas in terms of percentage area experiencing drought conditions, and that the far west is getting wetter, while the mountain areas to the east are getting drier.



Session 2

Prof Geoffrey Mukwada chaired the second plenary session of the colloquium, which focused on the ARU Theme titled *Living and doing business in Afromontane environments*.

Dr Henri Rueff from the University of Basel and an affiliate of the University of Bern, presented the keynote address in this session, on the topic *Investments in sustainable mountain development, integrating the Addis Ababa Action Agenda*, based on a report by the Center for Development and Environment of the University of Bern, released in 2016. He expressed the view that a transformation of the development funding landscape is needed as the current paradigm of funding from industrialised nations is failing, and new alternatives must be sought. He stressed the importance of investing in sustainable mountain development, outlining various forms of investment and challenges to attract investment. This type of investment had enormous potential for enhancing regional economies and had been proven to have an impact on reducing poverty. Investments of this nature fostered social development by contributing to building stronger institutions, empowering communities and increasing resilience of mountain livelihoods. It was increasingly important to invest in securing ecosystem goods and services, which are threatened, *inter alia*, due to poor management, climate change, and the poverty-environment nexus. He further emphasised the fact that investing in mountains can be profitable and rewarding, and encouraged participants to look to domestic public investors, the domestic and international private business sectors, international development agencies, NGOs and philanthropic organisations for support and funding. His presentation concluded by placing the report in the context of the Addis Ababa Action agenda, designed to provide a global framework and political commitment to financing for development. He expressed his concern that mountain agendas are seldom mentioned in the report.



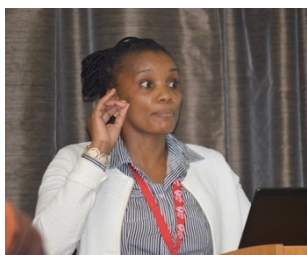
The session's first guest speaker, **Prof Coleen Vogel** from the University of the Witwatersrand, highlighted the critical issues that the ARU should focus on, in her presentation *Onwards and upwards – adaptation to climate stresses in changing environments*. She encouraged participants to strive for a better understanding of complex climate systems and their meaning both with and for society. According to climate change

models, Africa is under threat and southern Africa is at risk. Climate is unlikely to change that dramatically overall, but more slowly and incrementally. However, the frequency and magnitude of events is likely to increase. The complexity, uncertainty and 'messiness' of the terrain requires a variety of engagement processes. She stressed the importance of learning from the past and the role of cooperative governance. In her opinion, while knowledge about climate change science and climate variability is strong, adaptation and planning is located in silos of action, and there is little evidence of a more reflexive and reflective approach. She expressed the opinion that a different approach, which is not necessarily linear, is required as in complex development arenas, science alone will not be enough. Additional approaches on climate stress are needed, which include ethics, transdisciplinarity, and social learning – bringing in other knowledges (local and tacit) and approaches. In closing, Prof Vogel emphasised that we have an opportunity to catalyse transformation through a solutions agenda and greater social engagement, ensuring that the voice of the voiceless is heard.



Speakers then moved on to discussing ways of living and forms of business in the Afromontane. **Solomon Zondo** from the UFS Department of Geography, presented on his MSc research – *Value chain analysis in the proposed Witsieshoek Community Conservation Area*. He found that resource location determines the amount and type of resources extracted, and lack of technology leads to destructive resource extraction, particularly on lower mountain zones. There has been loss of biodiversity and ecosystem function, and lack of payment for ecosystem services, accompanied by no accountability. Of concern is the ever-expanding resource exploitation into conserved natural environments, all signifying a need for restoration, education, and a working community based natural resource management framework.

Dr Lebogang Makaba, a postdoctoral research fellow in the UFS Department of Geography, presented on a case study of subsistence farmers in Qwaqwa in her paper *An assessment of the mountain farmers' perceptions and adaptation strategies towards climate change*. There are few studies of this nature from



Africa. Her study found that 98% of those interviewed had noticed changes in climate (hotter, less rain, extreme weather events, unfamiliar pests) and most recognise climate change as a natural phenomenon, with many attaching religious explanations. The farmers in Qwaqwa rely on limited adaptation strategies, primarily finding alternative sources of water or trying to grow different crops; however their options are limited due to insufficient knowledge and understanding. This points to an increasingly important role for extension

officers.

Dr Terry Everson from the University of KwaZulu-Natal, then presented a paper titled *The role of community monitoring in the sustainable management of degraded montane catchments*, on her experiences working with a mountain community in the Upper uThukela, where lack of effective land-use management plans in communal areas has had serious negative impacts on the natural resources. Initially a community rehabilitation programme was undertaken, to rehabilitate badly eroded areas. This led to subsequent projects funded by the Water Research Commission (WRC) and Department of Environmental Affairs (DEA), to develop a community monitoring programme. Volunteers from the community, who formed the Okhombe Monitoring Group, were trained to use simple, scientific techniques to monitor soil erosion, and were subsequently trained on data analysis at UKZN. They report back with presentations to the community and tribal council. The results have motivated the community to work with the livestock committee to address the problem of livestock management, which is the main cause of soil erosion in the area. The Okhombe Monitoring Group



motivates volunteers in the community to continue the rehabilitation work, and have become trainers of the monitoring techniques. There has been social-uptake by school children through the 'adopt a donga' programme. This presentation once again underscored the value and importance of community involvement in projects of this nature, emphasising that there is more chance of success if communities are involved in decision making, and the benefits of learning from communities about aspects of their livelihoods. In addition, potential funding is available for community-based projects, especially where job creation is a factor.

Sarudzai Mutana closed the session with a presentation on her research for her PhD in the UFS Department of Geography on *Sustainability of montane route tourism*, focusing on the Maluti route in the



Drakensberg – a highly topical subject as mountains are becoming increasingly popular tourist destinations and tourism has the potential to contribute to economic growth of a region that is very poor. The results indicate that there is interest by tourism businesses and local communities to use tourism for poverty alleviation. However there is a lack of common understanding of how this can be achieved. The expectations of tourism businesses and the community are

different, with 65% of business people believing that they are contributing to poverty alleviation, while 86% of local people believe that tourism is not working for them. Ms Mutana recommended that a model for tourism and poverty alleviation is needed and policy frameworks need to include poverty alleviation aspects for tourism operators.

Session 3

The third session of the Colloquium, held on the second day, focused on the ARU Theme ***Sustainable futures for the people of the Afromontane***. This session was chaired by **Dr Dipane Hlalele**.

Dr Reetu Sogani, of Chintan India, presented the keynote address in this session on *Reviving the past for surviving in the future: Lessons from the middle Himalayan ranges*. From her experience of working with remote mountain communities, Dr Sogani emphasised the importance of 'people's knowledge' – how it had, over generations, played a crucial role in people's survival, and in food

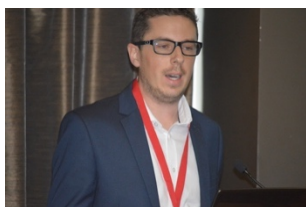


and nutrition security. The techniques used were generally environmentally sustainable and economically viable, and systems were based on bio-cultural heritage, adopting a holistic integrated approach. However, people have lost confidence in their own strategies, techniques and knowledge, because they have been ignored. The approach adopted by Chintan to facilitate the use of people's knowledge in addressing crucial sustainable development issues, had been transdisciplinary and holistic, emphasising gender and social equity.

Approaches of this nature, first require awareness and sensitisation at all levels, with a critical appraisal of what is available in terms of resources and knowledges systems, combined with protection and conservation of this knowledge in documentation, seed banks etc. The approach also requires capacity building to strengthen both the new and traditional adaptation and livelihood strategies. In addition, good strong networks are required with and among academic and research institutions, civil society, professionals, development organisations etc. Finally, advocacy at all levels is a critical component, to integrate people's knowledge and perspectives in the development process, educational curricula, research agendas etc. She stressed that the participatory approach had not been easy as it challenges conventional approaches and patriarchal mind-sets. She concluded by challenging participants that the time has come to change to "the field to the laboratory" rather than "the laboratory to the field".

Prof Pholoho Morojele from the University of KwaZulu-Natal provided an entertaining and challenging presentation, drawing extensively on his experiences growing up in the mountains of Lesotho, in his talk on *Decolonising the Afromontane – an act of ontological disobedience*. He began by highlighting the effects

of colonially inspired development of the Afromontane, explaining how the colonial capitalist system had created perceptions of the Afromontane as primitive, and how cultural imperialism had led to the eroding of local knowledge systems. The Afromontane became socially degraded as job-seeking men left their communities. He put forward that western knowledge had been introduced without the resources or political will to ensure sustainability. He argued that in order to decolonise the Afromontane, we need to better understand the people of the Afromontane, their identities and their knowledge. He drew on a study of the life experiences of 30 male Basotho herders, which identified that historically constituted repertoires of the herders' relationship with their social spaces and places, informed how they engaged and adapted to their precarious localities for lifelong learning. The study found that they applied indigenous knowledge, acquired through herding, to advance their lives, and, although they had no formal education, they possessed a wealth of local knowledge, mainly constructed through real-life experimentation and transferred through oral presentation and mutual communal interdependence. He reported on their use of herbs in addressing the two key challenges facing them – human and animal health, and their unique counting acumen, which demonstrated advanced identification capacity. He concluded that, by incorporating indigenous knowledge in research studies and academic curricula, there are exciting opportunities for opening up spaces for the blossoming of new Afromontane epistemologies, ontologies, theories and methodologies.

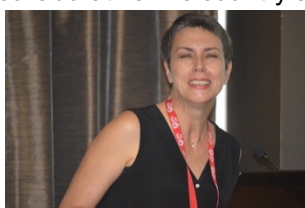


In his impressively illustrated presentation on *Seeking a sustainable future for the San rock art of the Golden Gate Highlands National Park: Challenges and possibilities*, **Dr Jared McDonald** from the UFS Department of History, elaborated on how rock art studies have changed the way we think about the San, with rock art revealing a complicated symbolic cosmology. His work has focused on seven rock art sites in the south-eastern part of the Park, which is a low tourism zone. There is a pressing need for preservation of rock art, but this is fraught with challenges such as erosion of the rock face, moisture and saltation, and particularly vandalism. Possibly the best way of facilitating this preservation would be to develop the tourism potential of the rock art sites, and linking this to community engagement. However, there is a disconnect in terms of communities' affinity to rock art, and an education programme will be required which involves and empowering the local community. There are however, management challenges such as porous borders and poaching. In conclusion he stressed that San indigenous knowledge has been neglected, and as the academy we have a role in expanding this notion of indigenous knowledge.

Dr Cias Tsotetsi elaborated on his experiences as a supervisor within the UFS School of Education in his presentation *Unlearning power differentials: Ubuntu perspective*. He elaborated on the context of supervision and mentorship, as it applied to the lecturer/student relationship, and argued that supervision informed by *Ubuntu* as a theoretical perspective can bridge a gap between the supervisor and postgraduate students.



The presentation by **Prof Linda Theron**, of the University of Pretoria, on *Sesotho pathways of resilience: Culture and context matter*, provided much food for thought. This formed part of an international collaborative five country study on 'Pathways to resilience'. Her research was based in the Qwaqwa region,



where most young people live in widespread structural disadvantage. One-third of young people live in 'mother'-headed households, services in the area are inaccessible or erratic, schools are poorly resourced and trouble at schools makes education a challenge. She explained that resilience occurs where, despite significant adversity and expected negative outcomes, people overcome and there is a positive development or adaptation. Resilience is co-

constructed through a socio-culturally relevant process. Her research was especially important as there is little in the literature on the perspectives of African young people. From the study it emerged that their

dreams are intertwined with education. The foundation for resilience is based in kinship connections – formal, informal, and spiritual, and central to the co-constructed process were women. In the study area, dependable women relatives were the bedrock, and these were mainly grandmothers or aunts – who emphasised the importance of education, values and cultural heritage. Spiritual practices were also found to be an important contributor. She concluded that it would be myopic to think that resilience can be fostered by focusing on the individual. We need to understand the primacy of being connected to a community of others and strengthening this community. Resilience focused interventions must work to sustain the contributions of the women and simultaneously find ways for men to be a more active part of young people’s lives and resilience. We also have to recognise the centrality of quality education to young people’s future aspirations. She concluded that there was a wonderful opportunity for the ARU to undertake studies that focus specifically on children in mountain areas.

In the final presentation, **Dr Rodwell Makombe**, from the UFS Department of English, described the current research being undertaken by him and Dr Oliver Nyambi, on *Visual cultures of the Afromontane*. The research was still in its start up phase, but would Investigate how geography and culture influence visual cultures of the Afromontane and analyse how visual cultures of the Afromontane intersect with dominant cultures. Visual cultures as involving both the seer and the seen, and visual images as products of a geographical/cultural space, the research would take into account graffiti, paintings, coat-of arms, posters, toponyms and odonyms, advertisements, and artefacts.



Panel Discussion

At the conclusion of the formal sessions of the Colloquium, a panel discussion was convened by Dr Taylor, on the theme “Reflections for the future”. The panellists, Dr Greenwood, Prof Xu, Dr Rueff and Dr Sogani were asked to identify and reflect on the important issues to bear in mind going forward.

Dr Greenwood spoke on the diversity of the discourse and the obvious potential of the ARU. He again called attention to the transdisciplinarity of sustainability, involving the ecosystem, economics and human beings. He stressed that, for the ARU to be successful and have an impact, it should be seen as a 30-year programme, and it was important to work together and create a space that allows different perspectives. The ARU should take the lead in montane research in Africa, and this would necessitate disciplinary labels being discarded.

Prof Xu called upon participants to intensify interaction, constructing new relationships between different actors. Dr Rueff suggested that the indicator of the dynamics was to be found in the students. If they were highly motivated, critical and looking for new ideas, this would show the quality and underlying drive of the ARU to train enthusiastic students. Dr Sogaini again stressed that the ARU must contribute to strengthening the knowledge systems about the mountains. It should try to bridge the huge divide between the formal and informal knowledge systems.

COMMENTS	
<p>Overall, there was a very nice ‘buzz’ about mountain research at this meeting. It is really wonderful, too, that the ARU is encouraging their students to communicate their research, and for example, the poster session encouraged the students to actually discuss their work with viewers. Dr Sue Taylor, AfroMont</p>	<p>I would like to say I am very grateful to have participated in the Colloquium. I greatly enjoyed myself and value the extensive interactions I had with people with similar interests as mine. I look forward to future similar events. Sarudzai Mutana, PhD student, Department of Geography</p>
<p>I was really motivated when I listened to professors and doctors there. It was really an amazing experience. Nomcebo Xulu, Honours student, Department of Geography</p>	<p>The Colloquium was a very successful and great experience from my side, and thank you very much for the great opportunity. Dineo Modise, Honours student, Department of Zoology and Entomology</p>

Poster Session

An ongoing poster session formed part of the programme, with posters displayed at the back of the conference venue. A total of 14 posters were accepted as part of the programme, and authors were available at the end of Day 1 and the start of Day 2, to present their work to those interested. This engendered lively discussion and active participation around the posters. Possibly the outstanding feature of the Colloquium was the calibre of student presentations. Participants commented repeatedly on the quality of the posters and the confidence of the students.

A 'secret' panel comprising Dr Sue Taylor, Prof Coleen Vogel and Prof Linda Theron interviewed all the presenters and selected the best four posters, based on criteria related to visual aspects, content, and presentation. The winners were:

- Mr Simon Mofokeng et al
- Mr Zama Shandu
- Mr Jacob Mabena et al
- Ms Dineo Modise et al.

Dollman, Gavin: Visualising wildlife movement and their environment using an interactive data visualisation cube.

Ige, Olugbenga: Major personality traits influencing students' environmental literacy in mountain communities in Nigeria.

Mabena, Jacob: Preliminary detection of helminth parasites from faecal samples in wildlife-livestock interface of the Golden Gate Highlands National Park.

Mkotywa, Agnes: The impact of vulture restaurants on scavenger dynamics in a montane grassland.

Modise, Dineo: Road ecology ungulate behaviour in Golden Gate Highlands National Park, Free State.

Mofokeng, Simon: Literature review of Afromontane Odonata found within the Golden Gate Highlands National Park.

Molaudzi, Olga: Remote sensing for fuel moisture content estimation over complex terrain for fire risk assessment.

Moloi, Tshele: The sustainable way of teaching mathematical content to Afromontane learners through the use of malepa game.

Mosolloane, Portia: Ecotoxicological assessment of wastewater soil (sludge) on the survival and reproduction of *Enchytraeus albidus*.

Sekhele, Ntebohiseng: Assessing environmental and socio-economic impacts of livestock grazing at Clarens Nature Reserve.

Shandu, Zama: Comparing the effect of uprooting and fire method in controlling *Seriphium plumosum*.

Sibaya, Khanyane: Context-based strategy for teaching and learning of mathematics world problems for Afromontane learners.

Thwala, Ayanda: Strategies implemented by tourism businesses to conserve water: A case of Maluti Route R712.

Xulu, Nomcebo: An assessment of tourist attractions in the Golden Gate Highlands National Park.

