In a first step to start to address this, an African Centre for Lightning and Electromagnetics (ACLE) was established in Kampala, Uganda on 7 February 2013 in an attempt to promote research and lightning safety awareness.

The decision to establish ACLE came at the end of a four-day African regional training programme on lightning protection, held in Kampala, Uganda, from 4 to 7 February 2013.

The training programme was organised by the Non-Aligned Movement Science & Technology Centre (NAM S&T Centre). It was attended by delegates from nine countries in Africa, namely Botswana, The Gambia, Kenya, South Africa, Tanzania, Togo, Uganda, Zambia and Zimbabwe.

Some ACLE goals

- To develop a robust network to promote lightning safety awareness in Africa, penetrating into remote rural areas
- To form a team of advisers with expertise in lightning protection systems, with an emphasis on low-cost solutions
- To establish a team of researchers capable of producing scientific output of international standing
- To support African countries to promote national centres for lightning information and research

The head of the Business School of Makerere University in Kampala, Professor Waswa Balunywa, offered to house the ACLE at the University. It will, however, take a champion and hard work to transform ACLE from a good idea into a reality.

The African Regional Training on Lightning Protection consisted of training sessions by specialists in various fields of lightning research, as well as short presentations by delegates.

Topics covered

Eminent lightning scientist, Professor Vlad Rakov, started the training programme with a presentation on the physics of lightning. Professor Mary Ann Cooper, a medical doctor specialising in lightning injuries, presented the ‘mechanisms of lightning injury’.

These mechanisms are poorly understood by people outside the lightning community - most people think that a direct strike is the only way to be killed or hurt by lightning and hence do not take sufficient precautions. Professor Christian Bouquegneau introduced the international lightning protection standards. Professor Chandima Gomes lectured on lightning protection of structures and equipment and the author spoke about southern African lightning beliefs and their impact on personal safety. Dr Munir Ahmed spoke about lightning safety education projects that he has tackled in Bangladesh. The main sponsor of the programme was the Uganda Broadcasting Corporation (UBC).

Delegates confirmed that the belief that witchcraft can be used to create and control lightning, is rife in many African countries, including Zimbabwe, Zambia and Uganda.

Slogan needed for African campaign

In the United States, the drop in lightning-related deaths is partly attributed to a vigorous lightning awareness campaign that used the slogan: ‘When thunder roars, go indoors’. It was, however, clear that Africa needs to develop its own slogan, since many structures, especially in rural areas in Africa do not have electricity or running water infrastructure and are flimsy constructions that do not offer protection against lightning strikes.

Indeed, plans to host this lightning protection training were set in motion by the Uganda Ministry of Water and Environment after 18 pupils and a teacher were killed and several children were injured in the Masindi area when lightning struck the school building where they were sheltering against the rain.

The delegate from The Gambia, Baboucarr Awe, provided an example of the type of work that needs to be undertaken in Africa. By installing surge arrestors and proper grounding, the National Water and Electricity Company of the Gambia has been able to reduce severe weather-related power outages by more than 40%. Some delegates presented anecdotal evidence of lightning injuries and deaths gleaned from the lay press. This highlighted the need for
systematically collecting objective evidence on lightning-related deaths and injuries in a database, as such data does not exist at present.

**Conclusion**

South Africa seems to be unique in Africa in that it has a long-standing culture of excellence in lightning research and the protection of buildings and infrastructure is well understood. South Africa is, therefore, in a position where it can make a major contribution to lightning research and awareness in Africa.

A Facebook page has been created for the ACLE at [http://www.facebook.com/ACLIR.Uganda](http://www.facebook.com/ACLIR.Uganda)

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Some delegates who attended the establishment of the African Centre for Lightning and Electromagnetics (ACLE): Dr Estelle Trengove, Professor Vlad Rakov, Professor Arun Kulshreshtha (director of the NAM S&T Centre), Professor Mary Ann Cooper and Professor Chandima Gomes.

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Estelle Trengove is a registered professional engineer (Pr Eng) and a lecturer at Wits University’s School of Electrical and Information Engineering. She recently obtained a PhD for a thesis on lightning myths and beliefs in southern Africa and the role that they play in personal safety.

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