Commentary
Sharing African Science on Social Media

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Sharing science is crucial in scientists' collaborative efforts towards advancing scientific research and towards communicating knowledge to the general public. This statement is also true across all continents and countries, regardless of economic standards for example, because science is everywhere! I learned while working in South Africa as a visiting postdoctoral scientist in air quality research that there are innovative and important scientific studies being done across the African continent that may be going unnoticed by other parts of the globe. In this commentary, I would like to highlight the Clean Air Journal's efforts to showcase African atmospheric science to the world through social media.

When we logged a Twitter account for the Clean Air Journal in February 2016 (@CleanAirJ), we hoped to increase the Journal's visibility. Since then we have used Twitter to promote atmospheric science, climate change and air pollution research in Africa and around the world while engaging with tweeps (Twitter users) with similar interests. The Clean Air Journal uses Twitter in many capacities: (1) to post the goal of the journal; (2) to network with the air quality community; (3) to follow conferences; (4) to broadcast its own articles; (5) to practice communications skills; and (6) to learn more about air quality research. Following the successful National Association for Clean Air (NACA) conference held recently in Mpumalanga (Oct 5-7 2016), we want to underline the benefits of sharing science on social media.

The Clean Air Journal publishes two issues per year and is completely open access. The Journal's editors are volunteers and the motive is to engage the African scientific community without any financial barrier. The Journal has existed since 1971 and since then has published through peer review a number of research articles on air quality, air pollution, monitoring, pollution mitigation strategies, public policy and air quality management, atmospheric modeling and emission, and measurement inventories relevant to southern Africa. It is true that the Clean Air Journal struggles to compete with international journals, but it provides a unique and needed platform for African researchers to afford to publish their research. The appeal of social media is therefore to try to reach a broader scientific community and audience to promote the ongoing research in developing countries.

It quickly became evident to the Clean Air Journal that there was an important network of fellow scientists on Twitter sharing similar interests and motives. In particular, @langleydew and @DACCIWA discuss the state of air quality in Rwanda and Togo, respectively and are scientists the Clean Air Journal interacts with through Twitter. Sharing research ideas and results will certainly help the scientific community grow in their knowledge; a theme also exemplified by the open air pollution database started by @Open_AQ. Networking is crucial in our collaborative and fast-paced scientific world, and is even more so when (financial) resources are limited.

Twitter is also an excellent place to disseminate rapid research information, whether it be conference topics and/or unpublished work. Conference hashtags are useful for following up-to-date and often unpublished work within specific scientific disciplines. Many times, researchers in developing countries cannot afford to attend conferences overseas, and so Twitter enables virtual access to the conference and to the attendees. Excellent examples within the atmospheric science field include #IGAC2016 and #NACA2016, conferences in Colorado, USA and Mpumalanga, South Africa, respectively.

The Clean Air Journal also tweets its own articles as they become available and has also taken advantage of the #TBT (throwback Thursday hashtag) to tweet archived articles. Twitter is undeniably an excellent way to stay up-to-date with the scientific literature whether it is published by Clean Air Journal or other journals. The Journal also retweets other journal's interesting and relevant articles in the hope to make its feed a relevant and unbiased source of information for the atmospheric sciences in Africa and around the world.

In addition, as curators of a Twitter feed, Twitter is a great place to practice one's communication skills. Interaction with fellow students, postdocs and professors are limited to 140 characters (that includes spaces, punctuation and smiley faces). Interactions in the Twittersphere must therefore be precise and concise: two important qualities necessary for effective scientific writing. The significance of communication in science cannot be overstated, and Twitter allows excellent communication skill practice with less pressure compared to standing in front of a full auditorium.

Twitter is a great learning tool. From disseminating science to networking and sharpening communication skills, it is also lots of fun! Time commitment to Twitter is also flexible and manageable.
There were indications already back in 2011 that tweets of an article could predict scientific impact of research, "highly tweeted articles were 11 times more likely to be highly cited than less-tweeted articles" (Eysenbach, 2011). But more recently, Tonia et al (2016) found that article downloads and citations in the public health sciences were not directly correlated with social media exposure. So whether Twitter does or does not help the Journal's citation counts, the Clean Air Journal is along for the tweeting ride, and has enjoyed so far the interactions with air quality scientists around the world. The Clean Air Journal looks forward to meeting more atmospheric science tweeps, to sharing more air pollution retweets and to tweeting away about air quality into the Twittersphere for many more years to come!

References

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