

## COVID-19 and science communication: a JCOM special issue

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### Abstract

The devastating effects of COVID-19 and the speed of both the scientific and medical response and the public information requirements about frontline healthcare work, medical advances and policy and compliance measures has necessitated an intensity of science communication never seen before. This JCOM special issue — the first of two parts — looks at the challenges of communicating COVID-19 and coronavirus in the early spread of the disease in 2020. Here we present papers from across the world that demonstrate the scale of this challenge.

### Keywords

Science and media; COVID-19; Coronavirus

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With the arrival of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the world was suddenly immersed in a scenario reminiscent of a Hollywood movie. While other recent epidemics such as H1N1 flu, Middle East respiratory syndrome (MERS) and severe acute respiratory syndrome (SARS) affected specific regions, the new coronavirus which causes COVID-19 quickly spread to all continents except Antarctica, and with devastating effect. As of 10 September 2020, 28 million people were affected worldwide with more than 910,000 deaths according to Worldometer.<sup>1</sup>

The global public health emergency created by this disease necessitated an urgent, dedicated response from scientific communities to initiate swift diagnosis and prevention and curative measures across almost all nations of the Earth. The speed of the virus and response was also a challenge for governments and national agencies. Central to all this was the challenge of communication: how to clearly and accurately provide fast-moving data and calls to action while at the same time facilitate the natural human processes of conversation and conjecture with the democratic right to deliberation and debate?

In scientific fields, many journals prepared a fast track system for evaluating papers; others decided to publish them with no peer review system. Many journals

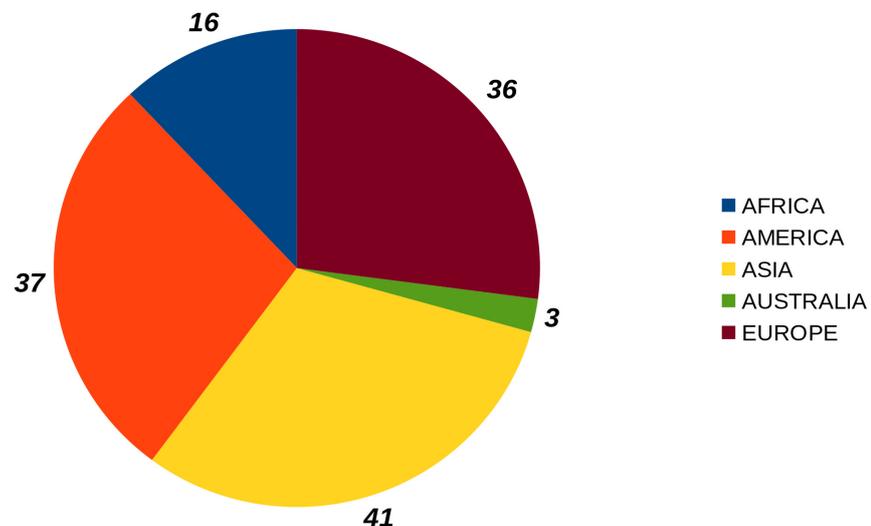
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<sup>1</sup>Worldometer <https://www.worldometers.info/coronavirus/> (access 10 September 2020).

also made papers related to coronavirus and COVID-19 freely available. Just to give an idea of the numbers of the scientific production related to COVID-19: a quick search on one among many other databases of scientific papers, Scopus, on 17 August 2020, retrieved 18,799 articles on COVID-19. Dengue fever, an epidemic that has killed people in developing countries for decades, is the subject of 23,494 articles while Ebola is referenced in 6,900 articles. Many scientists also have been producing preprints and these are placed on dedicated online servers as non-peer review papers. The two main servers for COVID-19, MedRxiv and BioRxiv, recorded 7,792 manuscripts. While many criticised the haste with which these studies were conducted and published, for others these were matters of life-and-death.

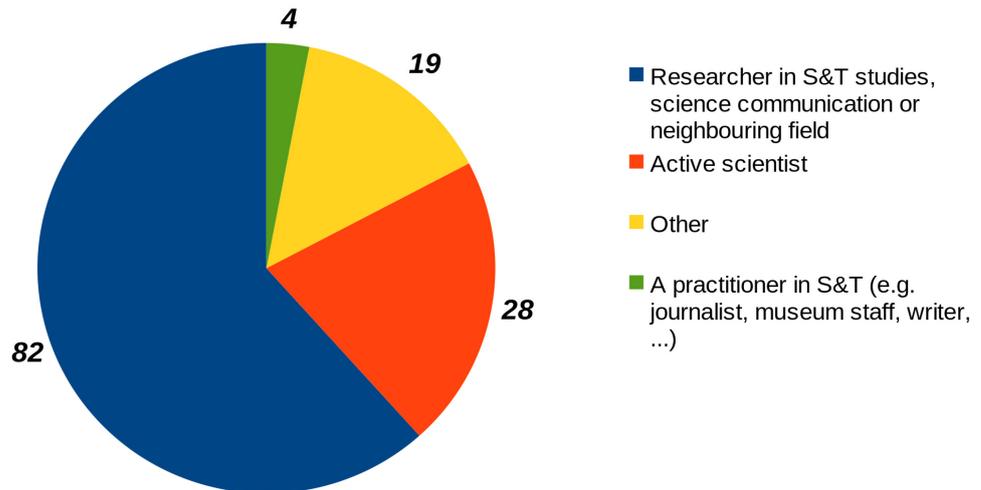
Science communication has been at the heart of the debate about coronavirus worldwide, helping to understand the virus and the disease but also behaviours that can minimise its impact. As such, producing and publishing high quality research in science communication around COVID-19 is imperative and indeed closely aligned with scientific research of the virus itself.

That is why we decided to launch this special issue on science communication and COVID-19. In total, 133 manuscripts were submitted — the total number of papers submitted in 2019 for the regular issues of the journal was 136 — with authors from about 40 countries from all the continents. As we can see in Figure 1, manuscripts were submitted by researchers from across the globe.



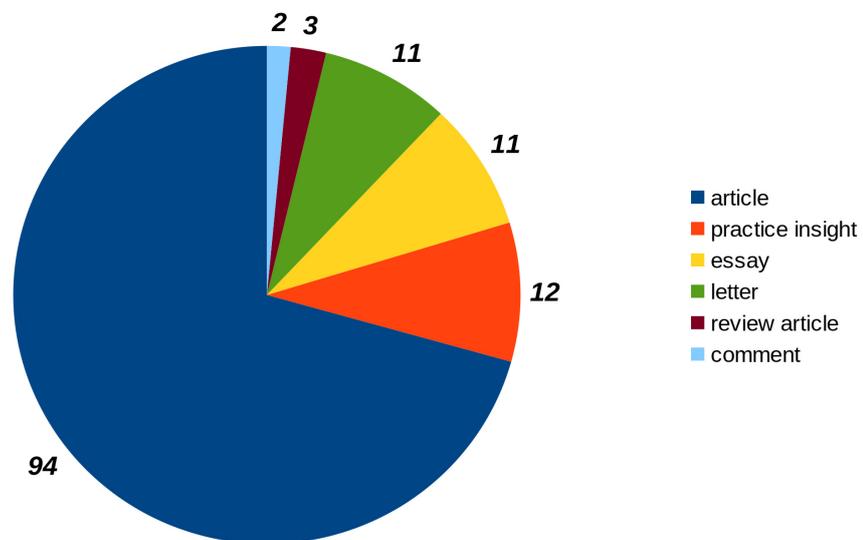
**Figure 1.** Regions: origin of the submitted manuscripts.

Figure 2 reveals that by far the largest proportion of corresponding authors are in the fields of research in science communication and cognate disciplines, with contributions also received from active scientists and science communication practitioners.



**Figure 2.** Professions of the corresponding authors.

A key concern for the editors when proposing this special issue was the limited time available to allow for the reporting of robust and meaningful research, and that perhaps contributors would favour essays, letters or insights. It turns out that this concern was unfounded: most of the manuscripts submitted were research articles (Figure 3).



**Figure 3.** Section to which manuscripts were submitted.

Although social media was the focus of a significant number of manuscripts submitted (and accepted), as shown in Figure 4. All manuscripts were carefully reviewed by at least two peers. Of the total, 13 were approved and another 13 are still in review. These will be published in a two-part special issue.

The manuscripts called our attention to the diversity of social scientific research approaches and methodologies inquiring into science and its engagement. In Part 1 of the special issue, there are articles about social media and the spread of (dis)information, such as Esa Valiveronen et al.'s study of expertise in Twitter

# SOCIAL MEDIA

## SCIENCE COMMUNICATION

## MESSAGE EMPOWERMENT

HEALTH CRISIS COMMUNICATION HEALTH CARE WORKERS

CHLOROQUINE AND HYDROXYCHLOROQUINE

AUTHORITY OF SCIENCE SOCIAL DISTANCING

AUDIENCE SPECIFICS SOUTH PACIFIC CONSPIRACY THEORIES

RHETORICAL ARENA MESSAGE SPECIFICS GAG ORDERS

**Figure 4.** More occurring phrases in title and abstracts of accepted papers, image generated by WordStat.

debates about coronavirus in Finland; Vipul Khosla and Prashanth Pillay's Facebook study in the South Pacific; Sonny Patel et al.'s look into fake news in Ukraine; and Zahaira Fabiola González Romo et al.'s paper on Instagram influencers during the pandemic. We look at how the speed of action and response has an impact on whistleblowing and transparency, such as Karen Adkins' ethnographic study of hospitals and managerial power and Jana Lasser et al.'s practice insight into transparency during crisis communication. Policy and public engagement are the subjects of Kaiping Chen et al.'s paper on public perceptions in the U.S. state of Wisconsin and Daniel Lemus-Delgado's study of China's struggle for an acceptable scientific narrative. Languages of excluded publics are covered by Amal Haddad Haddad and Silvia Montero-Martinez's paper on the challenges of translating neologisms in Arabic and Vívian Rumjanek et al.'s inquiry communicating to deaf and hard-of-hearing communities. The expertise of Science Media Centre (by Irene Broer) and celebrities (by Wishes Mututwa) are also placed under scrutiny.

This two-part special issue would not be possible without the most valuable help of more than 200 researchers and practitioners around the world who helped us to review the articles, to whom we enthusiastically thank. We also want to thank Cristiana Prever and all the editorial team for all the support they gave to make this two-part special issue possible.

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Rod Lamberts is Deputy Director of the Australian National Centre for the Public Awareness of Science (CPAS) at the Australian National University and a former National President of the Australian Science Communicators. He has more than two decades' experience as a science communication practitioner and researcher and designed and delivered some of the first university science communication courses in the world. Rod has provided science communication advice to a wide variety of private and public science-related agencies in Australia and overseas, and is a regular public commentator on science and, science communication in the Australian media. His professional and research interests include: science communication and public intellectualism/activism; science and ethics; perceptions of expertise in science; risk perception and communication; and science and public policy. He is also the co-host of the galactically renowned science-ish podcast 'The Wholesome Show'. E-mail: [rod.lamberts@anu.edu.au](mailto:rod.lamberts@anu.edu.au).

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