

# **The Siggen Call for Action – Shaping science communication**

## **The Siggen Circle: Who are we?**

The Siggen Circle was created as a think tank and driver of the ongoing development of science communication. In April of 2014, we met for the second time at the Siggen Estate in Holstein, Germany, without assignment or mandate from our respective institutions and with the assistance of the ZEIT Verlag and the Alfred Toepfer Foundation, to discuss topics and trends as well as upcoming and necessary changes in science communication. Our members work for universities and research institutes, scientific academies, administrations, funding institutions, initiatives, agencies, companies and editorial offices, as communication officials and managers, speakers, consultants, scientists and journalists. To promote shared interests in the field of science communications, we believe it is crucial to obtain an inter-institutional understanding and to coordinate our activities – knowing that our interests, motives and priorities may differ to some extent.

This position paper was drawn up jointly by the conference participants. Our hope is that it will help to facilitate changes in science communication in those areas where science and society meet and, at times, collide. We focus on the growing expectations of the general population and their effect on science communication.

## **Starting point**

We live in a science society. Science shapes every area of our private and public lives. It is both the foundation and an instrument for political, economic and personal development and decisions. In the form of new technologies and procedures, scientific findings are making their way into society at an increasing pace and with increasing reach. At the same time, we are seeing a growing complexity and disciplinary differentiation in science, with heightened interconnectedness and cross-subject cooperation. To part of the general public, scientific correlations are becoming more and more difficult to understand – or rather, are not being explained in a comprehensible way. This makes it increasingly difficult to balance chances and risks and to identify potential areas of conflict. Science has a duty to explain itself.

While part of the population is being left behind in this process, others are developing a new and critical awareness of science. They want to have their say, be it as a blogger, with a letter to the editor or as a commentator on the web, in critical discussion forums, action groups, as citizen scientists or in crowd-funded science projects – the people can advance or prevent science, build up trust or withdraw it.

This development gives greater responsibility to science communication in the science society of today.

## **Roles and actors**

**Scientists** are the main players in science communication. They can and must communicate about science in a credible, authentic and technically accurate way. Their expertise and right of interpretation imply a special responsibility towards society.

**Communicators** are the managers of science communication. They prioritise and emphasise topics and moderate the dialogue process. They provide a space and opportunities for communication between the general population and scientists. They are the decision-makers in the scientific system, seismographs detecting societal developments relevant to science. They promote the further development of science communication and ensure the quality of their work on the basis of scientific findings and strategic concepts.

**Journalists** see themselves as advocates for the public. They observe, comment and judge both science itself and the quality of science communication.

The relationships between these main players in science communication are subject to constant and rapid changes. Oftentimes, science reaches the public directly and unfiltered. At the same time, the appraising voice of the media is growing weaker. The independent, competent transmission of scientific findings to the broader public is thus becoming more and more of a challenge.

For reasons of orientation and quality assurance, science needs science journalism and other, new intermediaries between itself and the public. Science communicators must now actively promote the establishment or new orientation of such intermediary organisations through a strategic process undertaken in cooperation with the other actors. As science communication is always linked to an institution, it cannot replace the external critical observation and monitoring of science that science journalism provides.

## **Structural changes in the scientific system**

Due to its importance to society and public funding, science has an obligation to communicate. In other words, science communication is an integral part of scientific work. This implies training, promoting and appreciating communication skills in scientists and requires the following structural changes in scientific systems:

Teaching scientists to communicate successfully is part of any scientific education and must be firmly established in the curriculum. Further education in communication should be offered as part of human resources development at universities and research institutes.

At the same time, communication plays an important role in promoting science. Universities, research institutes and funding institutions all need to provide the necessary structures and resources. Scientists who engage in dialogue with the public deserve special support and appreciation. This should also be expressed by objectively rewarding a scientist's communicative performance in terms of remuneration and incentives.

Scientists' most important partners in the field of communication are the communication managers at their universities and research institutes, who provide useful contacts and can guide and advise the scientists as concerns their methods or strategy. As mediators between

the scientific world, the general public and the institute, they must ensure that the highest professional standards are maintained, while also serving on their institution's decision-making bodies.

### **Quality in science communication**

There are high expectations aimed not only at scientists and the scientific system, but also at science communication itself:

The work of science communication is value-guided and strategic. Its processes and products are shaped according to pre-defined quality criteria. These criteria are based on discussions of values, research-based insights and practical experience. Whether quality standards will be able to gain acceptance in science communication will depend on the extent to which scientific institutions are committed to upholding them.<sup>1</sup>

To expand the empirical knowledge base, science communication itself needs to be researched more closely. Findings must be documented and made available to the general public. Quality criteria must be applied on an ongoing basis, and tested and refined through hands-on work on the ground, with scientific communicators relying on both their own expertise and outside contributions.

The job description of a scientific communicator must be systematically defined and honed. A continuing and professional education as well as further training is a matter of course for science communicators from all fields.

Science is international and reaches across the boundaries of disciplines and institutions, and the same is true for the topics, trends and challenges relating to science communication. Science communication needs a better international network in order to learn from example cases and to collectively discuss and develop international standards.

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<sup>1</sup> *A discussion paper on the criteria for good science communication is attached to this document as part of the Siggen Call for Action.*

## Science in society

Science is developing in an ever faster and more complex way. New scientific developments are breaking into our everyday lives. These developments need to be explained and members of the public need to be able to share their feedback.

At the same time, environmental and societal developments are making new demands on science. More and more often, scientific expertise and innovation are needed to cope with the major challenges facing society. Science is called upon to develop fundamental principles and outline possible scenarios and courses of action.

The people and their democratically elected representatives and decision-makers at the regional, national and international levels are, to a certain extent, forced to place their trust in science. This results in the following consequences for science communication:

From an early point, the general population should be involved in scientific developments and empowered to participate in fact-based discussions. To achieve this, science communication should facilitate dialogue through which the people can voice their opinions, give advice and get involved in decision-making processes. This will prevent token gestures of discussions and highlight the possibilities and limits of the people's influence.

One of the important tasks of science communication is to make the possible courses of action that have been developed through the scientific community's recommendations to the political and social sphere accessible and comprehensible by the general public.

15 years after the PUSH memorandum, we are publishing this Siggen Call for Action to mark the transition in science communication that has taken place to date, and to highlight the new challenges of today. 15 years back, the issue was obvious: attracting qualified young talent and generating enthusiasm for the sciences were – and continue to be – important tasks for science communication. Now, we need and want to engage the people in the advancement of science. We want to:

- explain science, to make it understandable;
- strengthen the people and their role in science communication;
- facilitate knowledgeable dialogue with the general population, the results of which the scientific world must recognise as valuable feedback;
- train and motivate scientists as the key actors for science communication in that dialogue process;
- define and hone high standards for science communication managers; and
- achieve strategic cooperation amongst all players involved in science communication.

## **Discussion paper: Guidelines for good science communication**

Science communication occurs wherever science and society meet. Communicators realise that they are not only addressing science journalists. Through the Internet and social media, at events and exhibitions, they find themselves having more and more direct contact with the people. This increases the responsibility of science communication, in terms of the quality of the information and services it provides.

Good science communication will boost understanding and respect for each actor's position. It can and should promote the importance and the methods of science, and introduce the various scientific cultures. Conversely, it should also convey the people's questions, needs and sentiments, and, at times, also their fears and reservations, back to the scientific world and its decision-making bodies. In short, it should provide a forum for dialogue.

Good science communication takes the abundance of available scientific data and underscores the points that are most relevant to the people, avoiding any unnecessary or ineffective activities. It uses criteria that are as objective as possible to filter this information, instead of being guided by self-interest.

Good science communication stays true to the facts. It neither exaggerates its presentation of research success stories nor does it trivialise or withhold any risks of which it is aware in respect of new technologies. It clearly defines the limits to its statements. It also provides transparency concerning the publishing body's interests and financial interdependencies. It names its sources and contacts. It answers the question of the importance of the information to science and society and puts it into perspective against the current state of research. It does not stray from factual accuracy and transparency for reasons of institutional marketing or image building.

Good science communication takes care to prepare and disseminate information in keeping with its target group, using the instruments and channels that are best suited for the task, as well as language that its audience will be able to understand.

The people's interest is not limited to the facts alone. To promote science, good science communication also needs to tell the stories behind the science: its protagonists, their everyday lives and their environment. It gives the people a means of identifying with scientists. Good science communication allows scientists to talk about themselves, their motivations and their work.

Good science communication is self-reflective and self-critical. It works in a value-guided and strategic way and defines standards for the quality of its work and its results. It monitors the fulfilment of these criteria and is open to their adjustment based on established feedback processes.

Good science communication is open to changes in society and continuously adapts its strategies and activities on the basis of societal values. With this in mind, it seeks to exchange and cooperate with other communicators, scientists, journalists and members of the general public. It applies national and international discourse on practices and research in science

communication to its work. It promotes exchanges and cooperation between institutions and dialogue with stakeholders.

*This discussion paper is part of the Siggen Call for Action (2014). Its content is based on the joint work conducted at the Siggen Estate in 2013 and 2014.*

*With this call for action, we want to apply the current findings and assumptions of the Siggen Circle and other forums to the practice of science communication through an established set of guidelines. This paper does not claim to be comprehensive. It was prepared in the interest of its discussion at the meetings of the various science communication committees and the research community and should be supplemented and adapted as needed. Its practicality in everyday life will have to be proved. The guidelines should be reviewed on a regular basis and continuously refined to meet the changing requirements of society, science and science communication.*

## 2014 conference participants:

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|-------------------------|---|
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| Christian Flatz         | University of Innsbruck   |
| Bernd Halling           | Bayer AG  |
| Dirk Hans               | scienceRELATIONS – Wissenschaftskommunikation                                     |
| Manuel Hartung          | ZEIT Verlag   |
| Christian Herbst        | Federal Ministry for Education and Research                                       |
| Dr. Elisabeth Hoffmann  | German Association for Higher Education Communication, TU<br>Braunschweig         |
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| Dr. Jutta Rateike       | Deutsche Forschungsgemeinschaft (DFG, German Research Foundation)                 |
| Nicolas Scherger        | University of Freiburg  |
| Phillip Schrögel        | IFOK GmbH   |
| Volker Stollorz         | Freelance science journalist  |
| Ragnar Vogt             | Nufan Film / ZEIT Online  |
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| Prof. Gerold Wefer      | MARUM, University of Bremen, WiD Steering Committee                               |
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