(Letter to the Editor) Maintaining trust and objectivity in the context of use inspired research

The editorial “Crossing the Imaginary Line” (<http://pubs.acs.org/doi/abs/10.1021/acs.est.6b04432>) raises a variety of complex issues. My comments are based on my experience as the Director of the (publically funded) Swiss Federal Institute of Aquatic Science and Technology (Eawag). Eawag has a mandate to conduct use inspired research and to provide expert service to society. To fulfill its mandate, Eawag must be trusted as a source of objective scientific information that can serve as a reliable basis for decision making in environmental policy, management and practice. Here, I would like to highlight the aspects of **trust** and **objectivity**.

To maintain Eawag’s position as a trusted partner, our researchers invest substantial time and effort to engage actively, consistently and on a long term basis with regulators, practicing engineers and other stakeholders, including those from industry and environmental interest groups (1). Channels for this engagement include conducting applied research projects (often at municipal utilities) and presenting key results in events and courses for regulators and practitioners, publishing in trade journals or in reports issued by Cantonal and Federal offices and serving on advisory boards and committees. This investment should not be underestimated; Eawag, *as an institution*, supports these activities and accepts that they can, and often do, involve some trade offs with activities that are more highly valued in the scientific community.

Having our research implemented in practice to improve human welfare and environmental quality is a strong motivation for Eawag’s researchers. Some of our researchers, as individuals, may be engaged as activists or advocates on environmental issues. Their positions are informed not only by their scientific expertise but also by personal values that go beyond the bounds of science. Eawag respects the rights of its researchers to express and act on their values, but it must also protect the capacity of the institution to provide objective scientific information. As much as possible, advocacy should be distinguished from providing scientific information as an “honest broker” (2). Although it may be impossible to provide information that is truly free from bias (including unconscious bias) on complex environmental issues (3), it is critical that “stealth advocacy”, in which the claim of focusing on science is used to obscure attempts to advance a political agenda (2), is rigorously avoided.

As a citizen of the United States residing in Switzerland, I am well aware that Eawag’s positioning as a research institute in the landscape of regulation, practice and public opinion is the unique result of many factors, which are not reproduced elsewhere. If a government fails in its responsibility to protect the welfare of its citizens, the provision of objective scientific information is clearly not a remedy. Yet it is still a necessary contribution to societal debate, and it is a contribution that research institutions can and should make. At the same time, research institutions must recognize that the scientific information we provide is most likely to be taken up if our institutions engage with stakeholders over the long term to address the challenges they face and thus earn their respect and trust.

Janet G. Hering

Swiss Federal Institute of Aquatic Science and Technology (Eawag), Dübendorf, Switzerland

Dr. Janet Hering is the Director of the Swiss Federal Institute of Aquatic Science and Technology (Eawag) and Professor at the Swiss Federal Institutes of Technology (ETH) in Zürich and Lausanne (EPFL) in Switzerland.

References

- (1) Hering, J.G., Hoffmann, S., Meierhofer, R., Schmid, M., Peter, A.J. (2012) Assessing the Societal Benefits of Applied Research and Expert Consulting in Water Science and Technology. *Gaia Ecological Perspectives for Science and Society* 21: 95–101.
- (2) Pielke Jr., R.A., 2007. *The Honest Broker: Making Sense of Science in Policy and Politics*. Cambridge University Press, Cambridge, UK.
- (3) Spruijt, P., Knol, A.B., Petersen, A.C. and Lebret, E. (2016) Differences in views of experts about their role in particulate matter policy advice: Empirical evidence from an international expert consultation. *Environmental Science & Policy* 59, 44–52.