



**Quality, Honesty and Beauty
in Science and Technology Communication**

PCST 2012

**12th International Public Communication
of Science and Technology Conference**



Book of Papers

Edited by Massimiano Bucchi and Brian Trench

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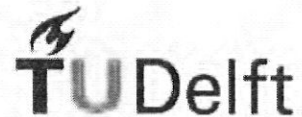
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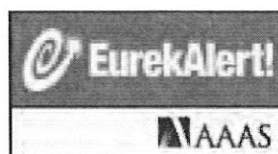
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PCST2012

**12th International Public Communication of Science and Technology Conference
Florence, Italy, 18-20 April 2012**

**Quality, Honesty and Beauty
in Science and Technology Communication**



BOOK OF PAPERS

Edited by Massimiano Bucchi and Brian Trench

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Quality, Honesty and Beauty in Science and Technology Communication

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Foreword

The papers in this volume of Proceedings are a sample of the 450-plus presentations made to the 12th International Conference on Public Communication of Science and Technology held in Florence in April 2012.

These papers were received in response to a call to all presenters to submit papers up to three months after the conference. Except where indicated otherwise in the table of contents, these papers were presented either to parallel sessions of individual papers or to pre-arranged panel sessions.

The full programme of the conference remains available at <http://www.pcst2012.org/> where you can also find the [book of abstracts](#) and a summary presentation of the [results of an evaluation](#) of the conference by participants.

We hope you find enlightenment and enjoyment in this record of several stimulating days in Florence.

Massimiano Bucchi and Brian Trench

Co-chairs, Programme Committee, PCST2012



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61. Mapping Variety in Scientists' Attitudes towards the Media and the Public: an Exploratory Study on Italian Researchers

Massimiano Bucchi and Barbara Saracino, Dept. of Sociology, Università di Trento, Italy

The paper outlines the results of the first exploratory survey on the attitudes of Italian researchers to their interaction with the mass media and the general public, and conducted at two interdisciplinary research institutions. Building on the methodology of the key international study in this field, the paper offers the opportunity for interesting comparison to be made with results from other countries. The findings point to a significant variety in scientists' attitudes towards the media and the public, which relate to different patterns of engagement in relevant activities, as well as to different models and conceptions of the science/media/public interaction.



Methodology

250

The study used an adapted version of the questionnaire developed by INWEDIS, an international project on researchers' attitudes to communication and the mass media, which has already involved 1534 scientists from five countries (Germany, France, Japan, UK and USA – see Peters et al. 2008; Peters, 2009; Peters, 2012). The data collection was conducted by Computer-Assisted Web Interview on a population of 584 researchers working at the Edmund Mach and Bruno Kessler research foundations. The survey was conducted between May and June 2011. The response rate obtained was 50.5%. The sample consisted of 295 cases.

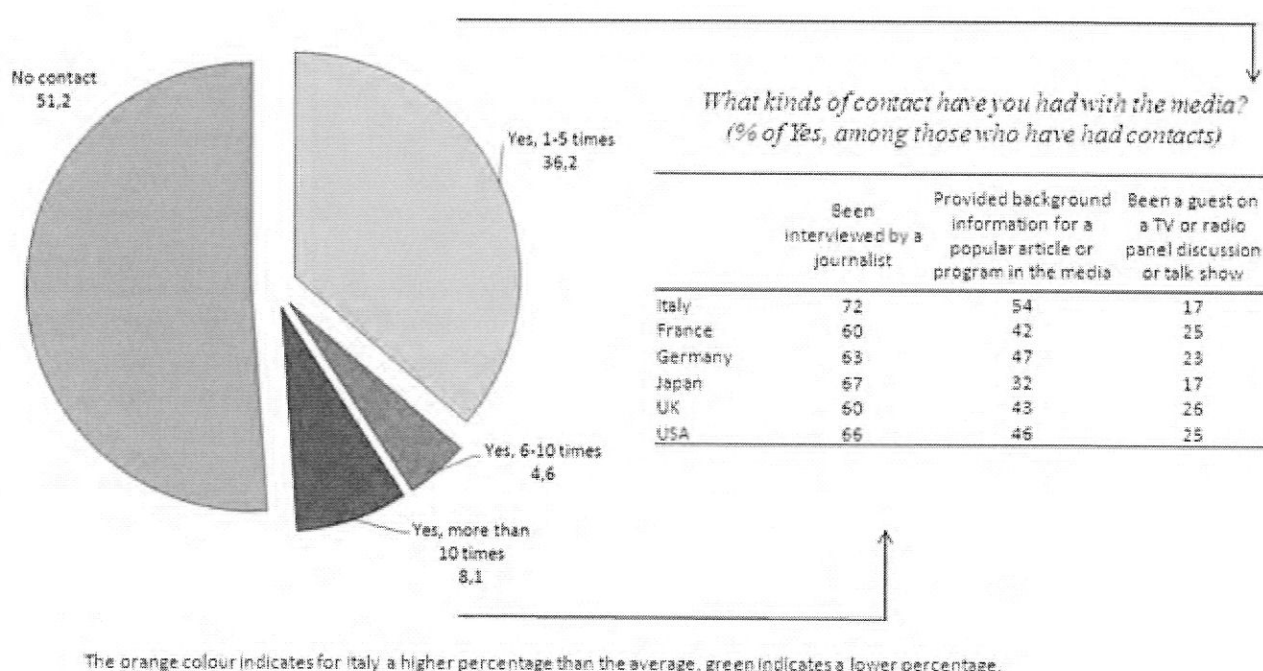
Results

Data analysis shows that interaction with journalists is more common than might be thought but is less common in Italy compared with the other countries covered by the international survey. Some 49% of the Italian researchers have had at least one contact with a journalist in the past three years. The most frequent form of interaction is an interview or a request for information for an article or programme, while only 17% of the respondents personally participated in a television or radio discussion. The frequency of contact with the media is associated with the scientist's position within his/her institution of affiliation and his/her level of productivity: among the senior researchers, in fact, more than 70% have experienced contacts with the media.

The majority of scientists consulted by the mass media believe that journalists have asked appropriate questions, and that they have been able to convey a message to the public. But only around one in three believe that they have been properly listened to, and that their research has been explained well. In practice, only 47% are satisfied with their last citation in the media – a percentage lower than those of the other countries surveyed.

Four interviewees out of ten believe that all their contacts with the media have had positive effects on their careers. In fact, after their appearances in the media, 42% of respondents have been contacted, apart from relatives and acquaintances, by fellow-scientists and other journalists, a practice more common in Italy than in France, Germany, Japan, the United Kingdom or the United States.

Figure 1. In the past three years, have you had professional contacts with journalists from the general mass media face-to-face, by phone, or by mail/fax/e-mail? (%) Source of international data: H. P. Peters et al. (2008), *Science Communication: Interactions with the mass media*, in *Science*, Vol. 321, No. 5886, pp. 204-205.

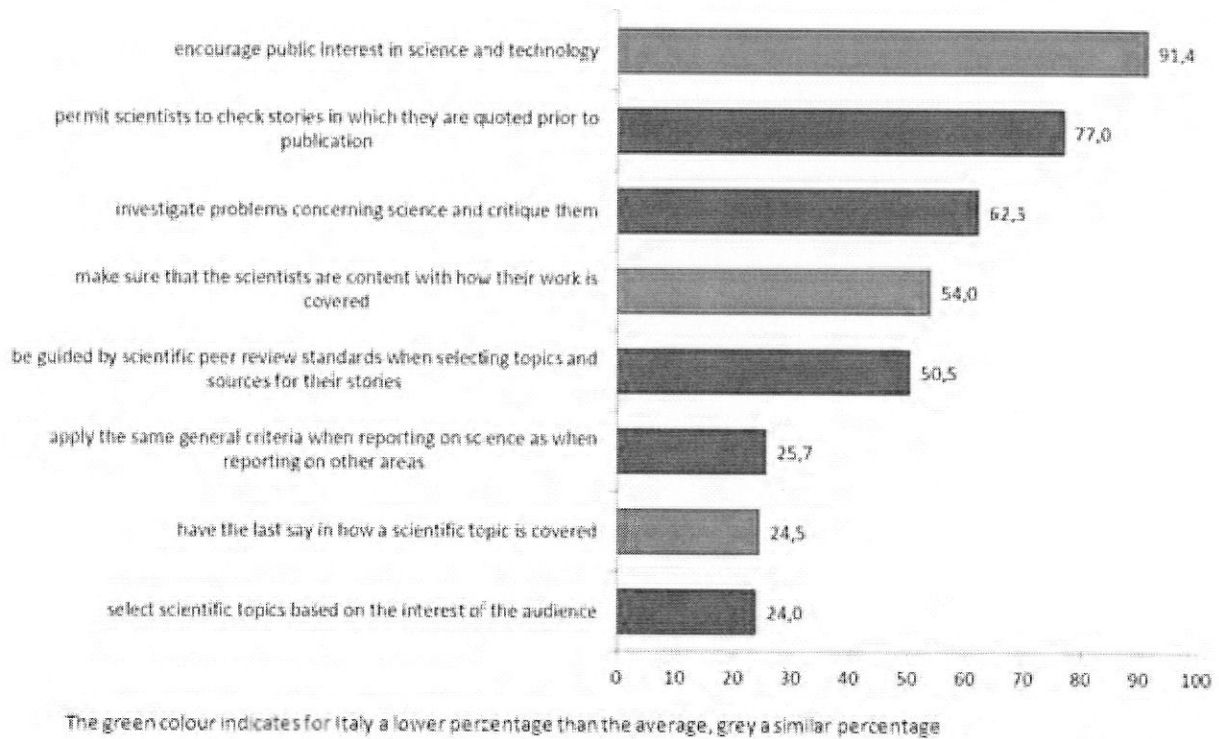


Whether or not the scientists have had relations with the media, according to the researchers at the two foundations covered by the Italian survey, the three main factors that may induce a scientist to refuse interaction with the media are the risk of misquotation, the unpredictability of journalists, and the possibility of negative publicity. For 73% of the interviewees, in fact, scientific topics are inaccurately expounded in the media; only a minority believe that journalists use credible scientific sources, and that the scientific information furnished to the public is sufficiently detailed.

According to the majority of the Italian researchers interviewed, journalists should encourage public interest in science, and address and criticise its problems. But journalists should also let scientists check the articles in which they are quoted before publication, and verify that they are satisfied with how their work has been treated. Journalists should not apply to scientific topics the same criteria that they use to treat other subjects, They should not have the last word on how to communicate a scientific argument. And they should not select scientific themes solely according to the interests of the public.



Figure 2. People differ in their expectations of how journalists should report on science. Please indicate your agreement or disagreement with the following statements about what journalists should do. Journalists should... (% of Agree)

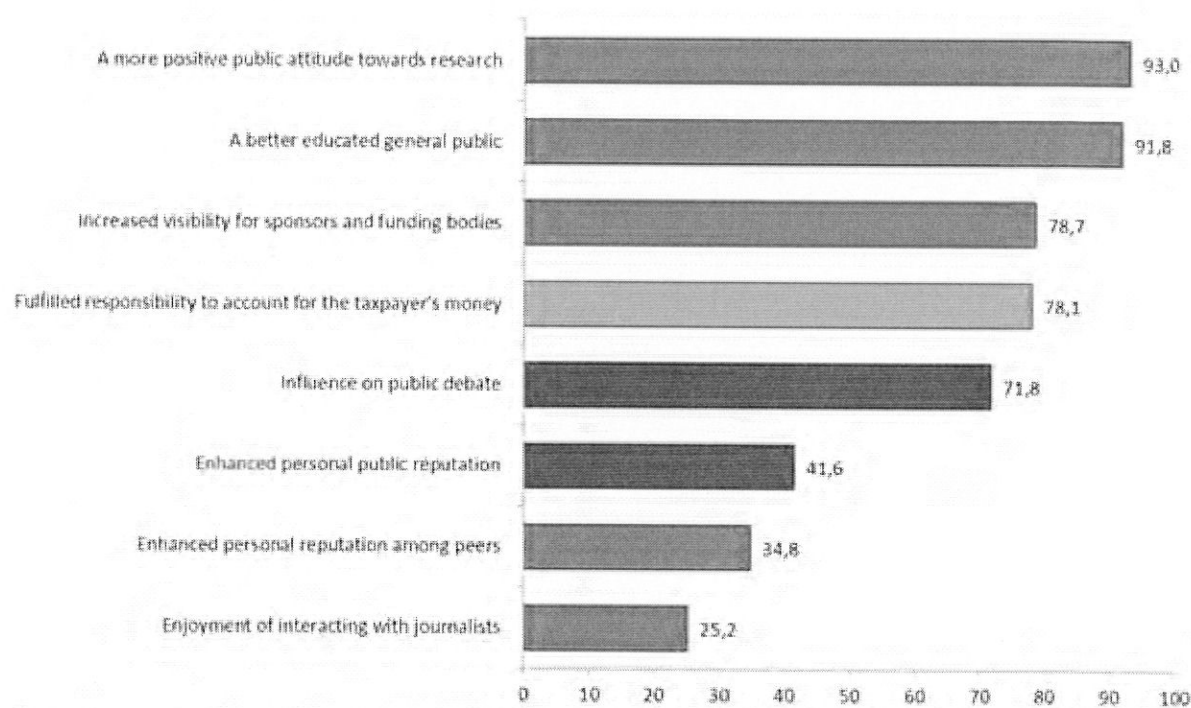


The survey shows that the relationship between scientists and the media is ambivalent: researchers are highly critical towards journalists but they recognise the importance of the public communication of science, and at times allow themselves to be influenced by the media in their research work.

More than the 90% of the interviewees consider it necessary to accept contact with the media in order to improve the education of the public and make its attitude to research more positive: if the public were more informed about science, they would have a more positive attitude towards research. Moreover, according to eight interviewees out of ten, public communication of the results of their research makes it possible to increase the visibility of the bodies funding their research, and to fulfil their responsibilities due to the fact that they were spending taxpayers' money.

Moreover, because the interviewees expected positive or negative publicity from the media, a not-negligible percentage of them (around three in ten) admit that they had brought forward or delayed a scientific publication, selected or avoided certain collaborators, presented or not a paper at a conference, selected or avoided particular research questions or sources of funding. The findings also point to a significant variety in scientists' attitudes towards the media and the public, which relate to different patterns of engagement in relevant activities, as well as to different models and conceptions of the science/media/public interaction (Bucchi, 2008).

Figure 3. How important to you personally are the following possible outcomes that make scientists feel more positive about contacts with the media? (% of very and somewhat important)



The orange colour indicates for Italy a higher percentage than the average, green indicates a lower percentage, grey a similar percentage.



The following five types can be identified on the basis of our data:

1) *It's important to communicate, provided I am not in charge*; 2) *Let's discuss it*; 3) *Let me explain it in my own terms*; 4) *Oh, no: I have to communicate!*; 5) *Leave me alone, I have to work!*

The first group (*It's important to communicate, provided I am not in charge*) consists of those respondents who have not had contacts with the media and have not participated in public communication of science activities in the past three years, but have taken a training course on communication techniques. The researchers belonging to this group dislike the public communication of their work; they are unwilling to have contacts with the media, although they have a positive opinion of the latter; they believe in the social importance of public communication of science, and they have similar feelings about different models of interaction with the public. This group represents 18% of the sample, mainly junior researchers aged under 30, who have published at most 10 scientific articles.

Belonging to the second group (*Let's discuss it*) are researchers who have had occasional contacts with the media and had engaged in at most five science communication activities in the past three years. The members of this group have not attended a training course to learn communication techniques. They are willing to communicate their work, and they consider it important to do so. They expressed a neutral attitude towards the media. They are uncertain whether the deficit model or the dialogue model should be used to communicate science; in fact, when they communicate, they have the participation model in mind. This second group

comprises a further 18% of the sample: they are mostly researchers aged between 30 and 40 years old, no longer in junior positions, with 25 published articles at most.

Table 1. Summarising researchers' attitudes: A typology

	Type 1	Type 2	Type 3	Type 4	Type 5
Contacts with the media	-	=	+	=	-
Public communication of science activities	-	=	=	+	-
Attending training courses	+	-	-	+	-
Deficit model	+	=	+	-	=
Dialogue model	+	-	=	-	=
Participation model	+	+	=	=	-
Judgment on the presentation of science in the media	+	=	+	=	+
Personal enjoyment of public communication	-	+	+	=	-
Social relevance of public communication	+	+	+	-	=



The typology was constructed by carrying out a two-step cluster analysis after recoding the variables and constructing additive indices. The variables related to patterns of public communication of science have been summarized in an index after principal component analysis.

The symbol - indicates that the majority of the researchers belonging to the group indicated the lowest mode of the variable (eg. no contact, no activity, disagreement), the symbol = indicates that the majority of the researchers have shown the average mode (eg. occasional contacts, uncertainty), the symbol + indicates that the majority of researchers have marked the higher mode (eg. frequent contacts, more than five activities, agreement, positive judgement).

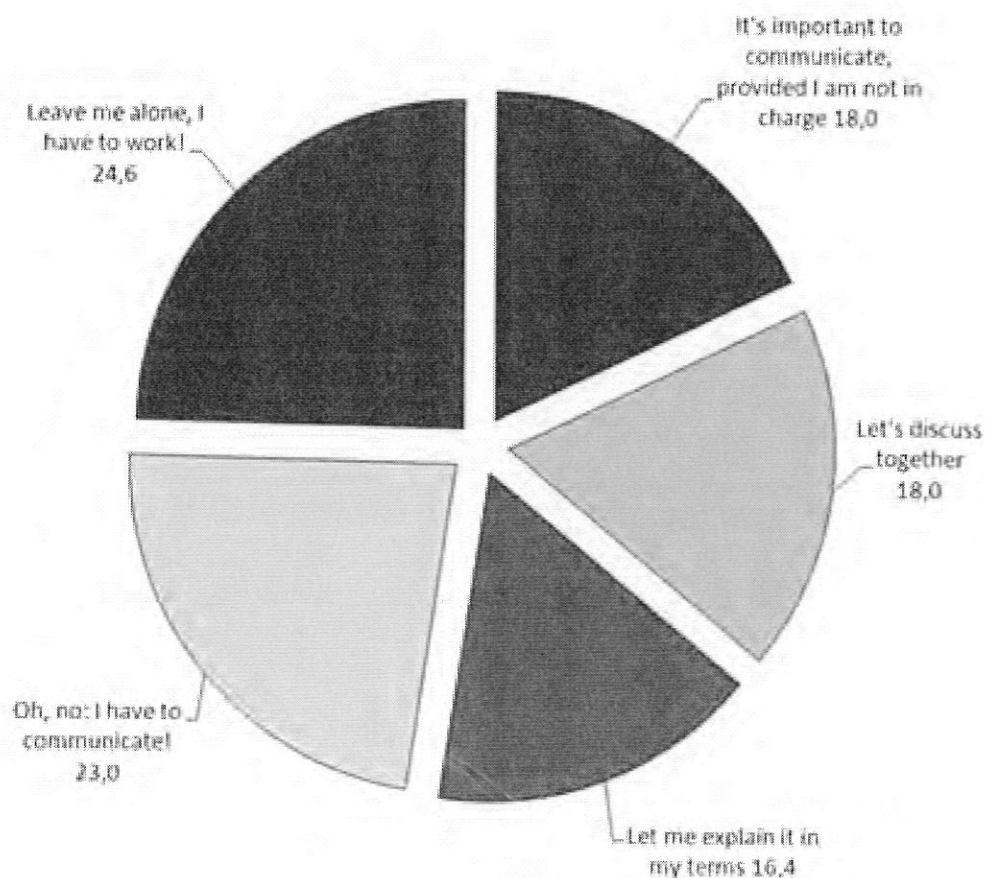
The third group (*Let me explain it in my own terms*) consists of those respondents who have not taken a training course on communication techniques but have had frequent contacts with journalists. They have been engaged in up to five public communication of science activities in the past three years. The researchers in this third group find it correct to expound scientific topics to the public; that it is important to communicate science; and that it is enjoyable to do so personally. They express uncertainty as to whether the dialogue or participation model should be used; they believe it necessary to use the deficit model to communicate scientific facts and models to a non-specialist public. 16% of the sample belongs to this third group: pre-eminently senior researchers the apex of their careers, having published numerous scientific articles.

The fourth type (*Oh, no: I have to communicate!*) includes respondents who, like the researchers in the second group, have had occasional contacts with the media but, unlike them, have engaged in up to ten public communication of science activities in the past three years and have attended a course to learn communication techniques. Despite their active collaboration, members of the fourth group do not particularly enjoy communicating their work to the public and do not believe that it is important to do so. They express a neutral attitude towards the work of journalists. They disagree with the deficit model of science communication, and they are uncertain as to whether both the dialogue and the participation

models should be used. This fourth type describes 23% of the sample: interviewees with this profile are midway through their careers; they are mostly aged between 30 and 50 years old, and have published a maximum of 50 articles.

The fifth group (*Leave me alone, I have to work!*) is composed of interviewees who have had no contacts with journalists; have not engaged in any public communication of science activities in the past three years; and have never attended a training course on communication techniques. The researchers belonging to this group express a positive opinion about the work of journalists but they do not wish to have anything to do with it. They do not believe that it is socially important to communicate science. They are uncertain as to whether a deficit or dialogue approach should be used; but they certainly do not consider the participation model appropriate. This fifth group is the largest one in terms of size: 25% of the sample can fit into this type; their features are somewhat similar to those of the members of the first group, junior researchers aged under 30 who have published 10 articles at most.

Fig. 4 *The distribution of types (%)*



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