



Public communication structures enhance scientists' public engagement: a comparative assessment

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Overview

- In research institutes, internal public relations (PR) offices take the lead in generating and promoting communication activities with the general public, rather than scientists. According to our cross-European empirical study, these offices also have a positive impact on scientists when their motivation to engage in these kinds of activities is low.
- This study included face-to-face interviews with 112 scientists and nine national and local PR and press officers of five relevant European centres involved in the field of nanotechnology and materials science, as well as observations of public communication activities and interactions occurring in the centres.
- This work is an empirical and exploratory study with a qualitative approach, but also using quantitative information to analyse scientists' PE activity at research institutes. Therefore this study does not offer statistical representativeness.

Overview

The institutes selected were:

- Fritz-Haber-Institut (FHI) in Berlin (Germany);
- Centre d'Élaboration de Matériaux et d'Études Structurales (CEMES) in Toulouse (France);
- Istituto per lo Studio dei Materiali Nanostrutturati (ISMN) in Bologna (Italy);
- Centre for Materials Science and Engineering (CMSE) in Edinburgh (United Kingdom);
- Donostia International Physics Center (DIPC) in Donostia-San Sebastian (Spain).

The distribution of the number of scientists by institute was: ISNa (21); ISNb (20); ISNc (35); ISNd (16); ISNe (20).

Objective

- The present empirical research seeks to contribute to the qualitative analysis of scientists' public communication attitudes, and the influences affecting their public engagements, particularly the role of PR or outreach offices at research institutes.
- With this in mind, we formulated the following main hypotheses as a means to express two potentially important influences:

Hypothesis 1: The amount of scientists' PE activity in research institutions varies mainly in relation to *scientists' motivation* regarding the public communication of science.

Hypothesis 2: The amount of scientists' PE activity in research institutions varies mainly in relation to the existence of a *public communication structure*.

Independent variables

1. Institutionalization of public communication in research institutions:

Case 1. Institutionalized: all research institutions that have a PR office (ISNa, ISNc, ISNe)

Case 2. Not institutionalized: the research institutes that do not have any PR office (ISNb, ISNd)

2. Level of scientists' motivation:

- Quantitative data on the importance that scientists attribute to public engagement with science activities.
- Quantitative data on scientists' perception of drawbacks to the public's engagement with science, such as potential conflicts with the research activity, time taken up in interactions with the public and the media and the limited availability of resources.
- We established three levels of motivation in scientists: **high** (ISNa, ISNb); **medium** (ISNc) and **low** (ISNe, ISNd).

Dependent variable

3. Amount of scientists' PE activity in research institutions:

- **The amount of PE activity development in the research institutions** (open doors; dealing with groups of visitors; special celebrations (public events); participation in exhibitions and production of press releases).

(Average amount of annual activity accounted for by each research institute between 2005 and 2009. The data were typified in order to present information without taking into account the difference between institutes in terms of size, quality or local preferences).

The typified results are as follows: ISNa=3, ISNb=0.8; ISNc=2.8; ISNd=1; ISNe=2.5.

- **Scientists' participation in open doors events.**

ISNa=95%, ISNb=45%; ISNc=54%; ISNd=25%; ISNe=90%.

* Qualitative data

During the interviews, scientists stated different opinions and provided significant detail to support their answers.

Results

Figure 4. Influence of public communication structures in research institutes

Institutionalization of public communication	Research Institute	Level of scientists' motivation	Amount of annual public engagement activities (typified results)	Scientists' participation in annual open doors events (%)
Public relations office	ISNa	High	3	95
	ISNe	Low	2.5	90
	ISNc	Medium	2.8	54
No public relations office	ISNb	High	0.8	45
	ISNd	Low	1	25

Results

Scientists described how easy or difficult it is to get involved in these activities with invitations, contacts and support:

- *It is difficult to have contact with the public. I am not famous, nor is my research, so how can there be contact? (ISNb)*
- *Engagement activities are complicated and it is necessary to have professionals to deal with them. (ISNb)*
- *If I have specific invitations to participate I may accept. I am not in the habit of looking for these opportunities. (ISNc)*
- *I am passive, so the problem is that someone needs to come to invite me to participate and I will do it. (ISNd)*
- *If people show an interest this is encouraging and interaction becomes easier. It is just what we want. (ISNa)*

Conclusions

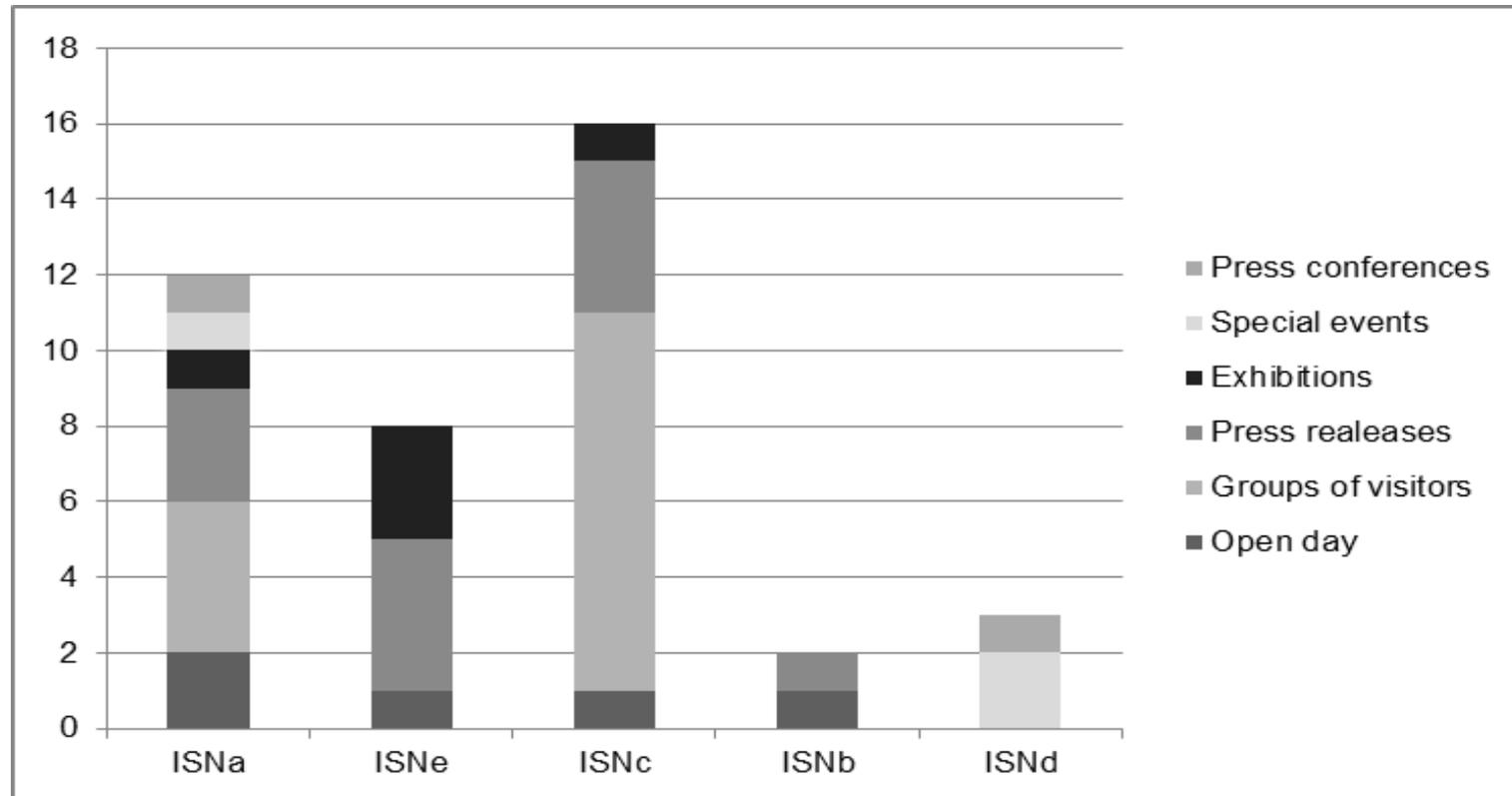
- The amount of PE activity and levels of scientists' participation were clearly associated with institutional support, i.e. having a PR office.
- The main finding of this survey suggests that the institutionalization of public communication of science, in terms of PR offices, has had more impact than the motivation of scientists in generating and promoting PE activities and scientists' participation in them.
- Moreover, the results show that these offices have a positive impact even when scientists' motivation is low. PR offices are capable of increasing scientists' personal motivation, interest and ambitions and can help them when difficulties arise. They also act as an important link to external bodies in the organization of these interactions.

A photograph of a public square in Garching, Germany. In the center is a fountain with water spraying upwards. To the left is a building with a balcony. To the right is a taller building with several windows. In the foreground, a person is looking down. The image has a dark, high-contrast appearance with some digital artifacts.

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Figure 3. Average number of annual public engagement activities by research institute



Data according to the information and documentation available at research centres between 2005 and 2009.