



Concientifica

How to know if you are an academic hermit?

¿Cómo saber si eres un ermitaño académico?

Summary

The daily tasks of researchers can be overwhelming and not much importance is given to activities related to science communication. By limiting activities of scientific dissemination and outreach, many serious consequences can arise in the academic development and the impact of the research work made. Therefore, it is important to discuss about the role of scientific dissemination and outreach in the generation of knowledge, its application and its impact on society. In this way, the reader can reflect about the role played in the dissemination and outreach of science and on whether they are academically isolated.

Keywords: *Scientific dissemination and outreach, research niches, academic insulation.*

Resumen

Las labores cotidianas de los investigadores pueden ser abrumadoras y se suele dar poca importancia a actividades asociadas con la comunicación de la ciencia. El limitar las actividades de difusión y divulgación científica puede traer serias consecuencias en el desarrollo académico y el impacto de las investigaciones. Por ello es importante discutir acerca del papel de la difusión y divulgación científica en la generación de conocimiento, su aplicación y su impacto en la sociedad. Así el lector podrá reflexionar acerca de su rol en la divulgación y difusión de la ciencia y sobre si se está aislando académicamente.

Palabras clave: *Difusión y divulgación científica, nichos de investigación, aislamiento académico.*

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Picture yourself in a family reunion at the end of the year. There, you are faced with the mandatory question: "What do you do for a living?" While you are studying up to high school, the answer is quite easy to explain, and the other person understands it immediately. However, as you advance through the following academic levels, your answer becomes increasingly complicated. Without a doubt, genetic engineering or transport phenomena are far more difficult to explain than history or ecology from basic levels. In fact, with complicated answers, the questioner quickly loses interest, which brings with it a feeling of frustration on both sides. On the one hand, the questioner feels ignorant for not fully understanding your answer and, on the other hand, you feel uncomfortable for not having connected as before with the other person. If this has happened to you at some level please keep on reading, you could be an academic hermit. This text aims to provoke reflection among undergraduate and graduate students, as well as researchers, on the importance of scientific communication and the consequences of academic isolation. This reflection was written by

researchers who have struggled with the “What do you do for a living?” question and who are interested in the implementation and appreciation of scientific dissemination and outreach activities, albeit not being proficient science communicators.

Importance of scientific dissemination and outreach

In many countries, including Mexico, there is a tendency to demand that researchers include in their regular activities, scientific dissemination and outreach work, as well as establishing links with the productive sector and society. To avoid ambiguities, in this text the term *scientific outreach* is understood as the communication of science to the public [1]. While *scientific dissemination* is interpreted as the communication of knowledge among academic peers who are not necessarily from the same area of expertise [2], beyond just research articles. In this sense, the text you are reading is a scientific dissemination article.

It is thanks to scientific dissemination that other colleagues can learn about what the rest of the scientific community is doing. It is thus possible to incorporate knowledge generated in a certain area to different and broader fields than those initially contemplated. It also allows other researchers to review, critique and build upon previous results, even from different areas of knowledge, accelerating scientific and technological progress. Furthermore, it is thanks to the dissemination of knowledge that unattended areas that require multidisciplinary knowledge can be identified and addressed or even generate new research lines. Moreover, from a personnel management point of view, it is healthy to promote dissemination activities as this provides a constant update of the capabilities and activities of the academic staff. Nevertheless, scientific dissemination among different research areas requires additional effort to the typical research article, since more concise explanations with less technical language are needed. In this context, an academic hermit can be seen as an individual who avoids collaborating with others and engaging in scientific

dissemination activities.

Scientific outreach is related to the ability to, for example, answer the question “What do you do for a living?”, gain your relative’s interest and even provoke curiosity about the topic. In general, it helps both to make awareness in the society about what the researcher is doing and to identify areas of opportunity that need research for their progress. The interaction between scientific research and society is a mutually beneficial relationship since, at least in Mexico and several Latin American countries, it is with public funds that both research and training of researchers are financed [3]. Therefore, researchers acquire an ethical responsibility to society to, at least, communicate what was the fruit of that financial investment and, thus, generate confidence in science. This agrees with the right of access to information, which empowers citizens to access any information obtained with public funds, including scientific research results [4]. Ultimately, it is also important that the results of scientific research are applied to solve social problems, or to improve the quality of life. In this sense, it is desirable that researchers focus their work, as much as possible, not only on topics that attract their interests or curiosity, but also on the social needs on which their research can have an impact.

Carrying out scientific dissemination and outreach activities is a time-consuming task that also requires specific training and scientific communication skills, which are not necessarily acquired in a postgraduate program or in professional practice. Given the importance of these activities and the language required to communicate them effectively, it is highly recommended that researchers interested in science outreach dedicate the time to acquire and practice these skills. Many resources to learn about science communication can be found published elsewhere [5]. Also, institutions like UNAM, IPN, Instituto Mora, CCEMx and Somedicyt offer diplomas or workshops for science communication [6, 7, 8]. To those who may not have the time or tools to do it personally, it is always feasible to approach experts in science outreach or communication so they

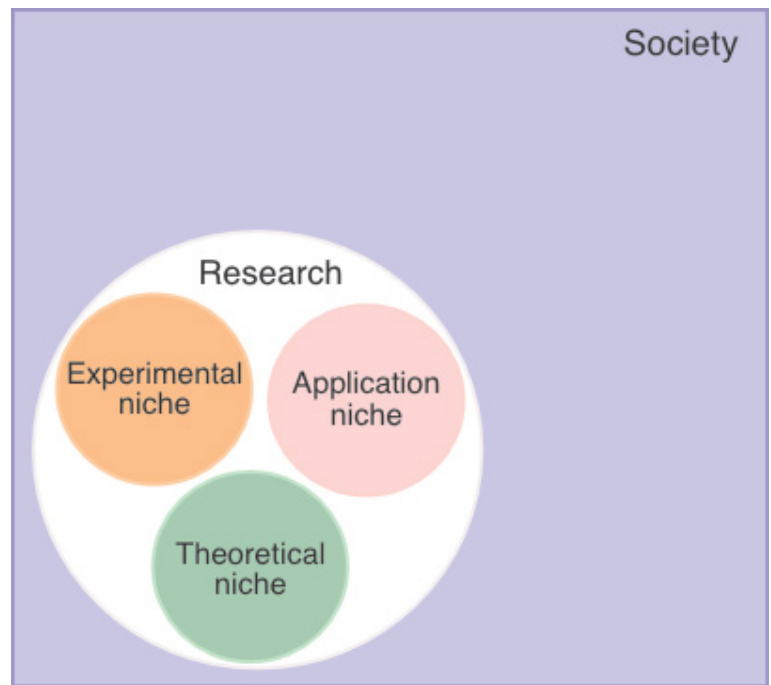
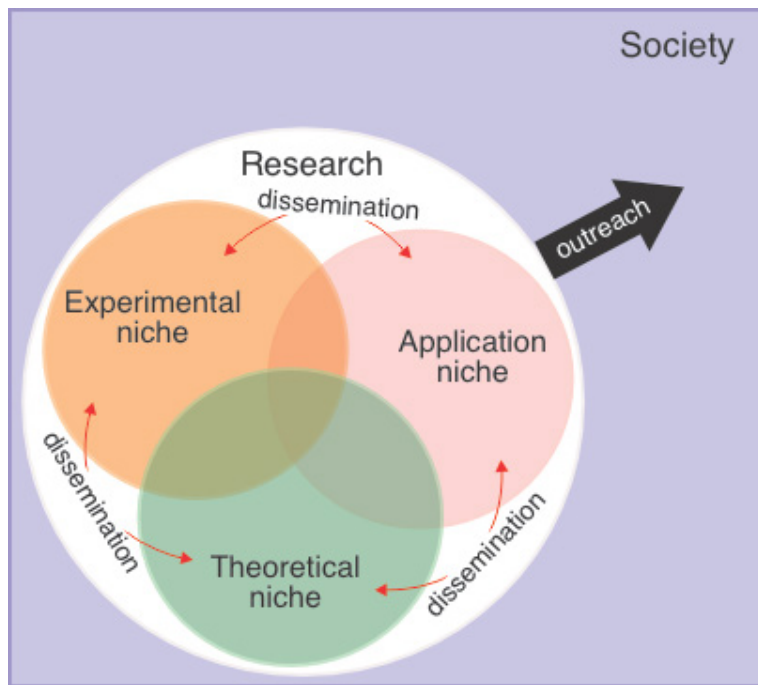


Figure 1. Diagram of: a) the main research niches, as well as the communication between them by means of science dissemination and integration with society through scientific outreach. b) Consequences of academic isolation caused by significantly reducing the dissemination and outreach of knowledge.

can communicate the researcher's results. There are many side-advantages of approaching a science journalist, such as: broadening the reach of a particular research topic, reaching potential collaborators or students, obtaining funds [4]. In summary, feedback to society should not be seen as a new obligation (derived from public policies), but as a natural part of scientific work. Nevertheless, for an academic hermit, these types of activities could be regarded as necessary tasks that do not deserve the same time that is dedicated to doing research.

Research niches

The difficulty of performing scientific dissemination and outreach activities can depend on the personality of the researcher and on the type of investigation being conducted. Thus, it is not uncommon to find that applied tends to be easier to communicate to society than purely theoretical research, although there may be exceptions. In this sense, it is convenient to define the following three research niches; where each one represents the preferences of the research work (see Figure 1a):

- *Theoretical niche*: refers to researchers mainly dedicated to produce fundamental knowledge without the need of laboratory experiments.

- *Experimental niche*: refers to researchers that use physical models to generate new knowledge.
- *Application niche*: encompasses research focused on translating scientific knowledge into products and services to society.

The above can be conceived as primary niches; however, there are others that serve as a bridge between them, which surge from activities of scientific communication, and can combine one or more primary niches. These are represented as the intersection areas of the three main niches in Figure 1a). This classification does not imply that, by belonging to a particular niche, activities of other niche(s) cannot be developed. In accordance with the above, communication between primary niches and their derivatives takes place through scientific dissemination. Note that the communication of research results to society is carried out through scientific outreach. The configuration shown in Figure 1a) represents a healthy communication between research areas and society. The contrast to this situation is shown in Figure 1b), which represents the consequence of academic isolation resulting from significantly limiting the activities of dissemination and outreach of knowledge. Evidently, in this second scheme

scientific contributions occur in isolation and the impact that research has on the society is smaller to the one depicted in Figure 1a). In addition, scientific advances would, more likely, take place at a slower rate. In fact, it is not difficult to think that this is a somewhat realistic representation of the relationship between science and society in ancient times. From the above, it follows that the degree of isolation among niches, depends on the academic isolation of each of their members. It is thus of interest to somehow quantify the degree of academic isolation, for which a simple approach is proposed next.

Test: how much of an academic hermit are you?

In the previous paragraphs, the consequences of academic isolation for research work were discussed. To conclude this reflection, the reader is invited to answer honestly the questionnaire shown in Figure 2 (link to take the test: <https://tally.so/r/wAePxI>). The purpose of this self-assessment is to guide through specific question made to ponder about some typical academic isolation mindset actions, then to further quantify their degree of academic isolation (hermit level). The test responses will be compiled for further analysis specific to each research niche and demographic data. In case the result tends mostly towards being an academic hermit, the reader may want to reflect on and consider the benefits of incorporating some scientific dissemination or outreach activities into their daily activities, or to approach specialised science communicators. The test should not be taken as a validated method, as the authors are not proficient in the elaboration of this type of resources. Moreover, the answer key was arbitrarily established, and it is intended to be a humorous analogy to the already known research evaluation system used in Mexico. **iBIO**

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Are you an academic hermit?

We invite you to take a short and original questionnaire that explores habits, attitudes, and dynamics within academic life. The test aims to identify different levels of "academic hermitism" in a light-hearted yet insightful way, based on real patterns of interaction in research and teaching.

Your answers will be collected for a later study, but no demographic data will be used or shared. The questionnaire is anonymous, takes less than 10 minutes, and offers a chance to reflect on your academic work style.

Note: This questionnaire assumes that the reader is engaged in research and teaching activities. If this is not the case, please imagine that scenario and answer the questionnaire in full, nonetheless.

Ready to find out your level?

Are you unaware of what are doing at least five researchers on the same floor where your office is located, who are not in your working group? *

☐ Yes

☐ No

Next →

Figure 2. Preview of the academic-hermit test, available in full from: <https://tally.so/r/wAePxI>

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