

XIX. Symposium of the Division for History of Physics
at the Spring Meeting of the German Physical Society
in Heidelberg, 21-23 March 2022

Communicating Physics in History
Communicating Physics through its History

Writing papers, gauging instruments, teaching at school or chatting over coffee: these are just a few ways in which physical knowledge is communicated, and many more exist today or have existed in the past. In the last decades research in the history, sociology and didactics of the sciences has investigated the communication of scientific knowledge, underscoring the relevance for the development of existing fields, the emergence of new ones and the shaping of scientists' identities and communities. These reflections also apply to the past and present of the physical sciences and the contributions to the conference are invited to reflect all aspects of this diversity.

We understand here "communicating physics" in a broad sense, encompassing formal and informal communications among physicists, teaching at university and school level and public outreach. Beyond that, it also includes the transfer, appropriation and assimilation of knowledge between different cultures, such as interdisciplinary cooperation between physicists and scientists from other disciplines or knowledge transfer in colonial contexts or within processes of globalization.

The factors shaping *Communicating Physics in History* are as many as the forms it can take, and a few are mentioned below as examples of topics the contributions might address:

- *Communicating Physics between individuals*: How was the form and content of scientific communication affected by status and authority? Which role play gender and cultural and ethnic background? Historical comparisons may help in better understanding and managing these issues so important today.
- *Communicating Physics in (in-)formal networks*: In the early modern period, learned societies offered a place in which contacts could be established and cultivated. At that time, the exchange of letters was a primary means of long-distance communication, while later on personal interactions, for example in conferences or research visits became increasingly important. Reflecting on this topic is also of particular interest at the present time, when so much communication has necessarily taken a virtual form.
- *Communicating Physics without words*: Communication of knowledge need not necessarily occur in written or oral form, sometimes demonstrations or material objects such as models or an (simplified) experimental device play an important role in these transfer processes. One of the best-known examples in this respect is most likely Michael Faraday's attempt to communicate his rotational apparatus by sending out some examples to selected scholars.
- *Communicating Physics beyond the scientific community*: At the end of the 19th century physics became a leading discipline and acquired more and more resources. Popularization of physics became crucial in the process, and we want to ask, how physics was communicated beyond the scientific community.

In our meeting we want also to address another perspective of communication in physics: *Communicating Physics through its History*. We want to ask how the history of physics is used in the communication of physics today, again we want to mention a few examples of topics:

- *Communicating Physics through its History in Formal Education*: How may the history of physics contribute to modern physics education? We all know the first 'historic' chapter or the brief anecdotal episodes in textbooks, where history functions to legitimate the present approaches in physics, if at all. But are there ways which exceed this more than unsatisfactory form of communicating the history of physics for teaching modern physics as well as an understanding of the nature of physics? What forms of communication of the history of physics are developed for teaching in formal education? Story-Telling is one of these approaches that offers to teach physics from different perspectives and gives the pupils new insight in how physics works.
- *Communicating Physics through its History in mass media, museums, archives and at public sites*: A large variety of stakeholders are contributing to the Public History of Physics and its perception in society at large. These multiple channels of communication with the public gives rise to broader questions on authority, methodology and the politics of display. Who claims ownership for the past in physics? How are the results of academic history of physics entering public trading zones, e.g. museum exhibitions? Which facts, debates, stereotypes and myths are being communicated by selecting aspects of physics history? How have the approaches changed in the last years? What is the role of objects in this respect, how are these objects contextualized and where does the human endeavour in physics research become visible?

We welcome contributions in English or German focusing on these or other aspects of *Communicating Physics in and through its History*.

Beside sections devoted to the theme laid out above, free sections offer the possibility of presenting current research in all areas of the history of physics. The participation of PhD students to the conference is encouraged and can be financially supported by the WE-Heraeus- Stiftung. Please see the website of the meeting.

The registration to the meeting is open between October 1st, 2021 and December 1st, 2021 at <https://heidelberg22.dpg-tagungen.de/index.html> Proposals for talks may be submitted at this webpage as well. When submitting a proposal, please choose the History of Physics Division (Fachverband Geschichte der Physik (GP)). There is no poster session.

Please contact us if you have any questions:

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Or other members of the Board: Julia Blömer (Munich), Arianna Borrelli (Lüneburg), and Johannes-Geert Hagmann (Munich), or the website of the History of Physics Division: <https://www.dpg-physik.de/dpg/gliederung/fv/gp/index.html>