



Science Communication: Sharing knowledge and creating connections

March 2022 - July 2022 – Online Microprogramme

The society of knowledge requires fluid communication between knowledge-producing institutions and its publics. Knowledge of the main development paths of scientific-technical research, and of its main risks and benefits is a fundamental element of contemporary culture, and the existence of specialized communicators is essential.



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Universidad Autónoma
de Madrid

1. Understanding Science Communication – 1ECTS

Science in Popular Culture and Popular Science

Dr. Mircea Sava (University of Bucharest)

29th March 2022

Format: Online, 2h

The course of Science in Popular Culture and Popular Science aims to provide students with the tools for analysis and construction of media products and communication campaigns, necessary for public relations in the context of contemporary society, which can no longer be thought without taking into account the impact of science and technology. The course will briefly present the main theoretical models of science communication (linear model, network model, deficit model, public engagement model, etc.), and will then focus on the analysis of case studies on science promotion. Media products and public relations campaigns for science implemented on a variety of popular channels will be discussed:

1. Awareness campaigns (Royal Society of London, Global Response to Climate Change),
2. Integrated public relations campaigns for science (European Space Agency, Hubble 15th Anniversary).
3. Project.
4. Promoting science online (TED. Ideas Worth Spreading).
5. Science festivals (Genoa Science Festival, New York World Science Festival).
6. Theatre, dance and music for science communication: (Spooky Action: The Drama of 5. Quantum.
7. Mechanics; Three Theories contemporary dance performance; A Brief History of Rhyme rap album).
8. TV series and sitcoms (Star Trek, The Big Bang Theory).
9. Science fiction films (Interstellar).

• **Case studies** (selection):

1. Representations of science in science fiction films, case study: Interstellar (2014).
2. Public relations campaigns for science. Case study: Global warming.
3. Physical theories in popular culture. Music, film and TV series about the workings of the Universe.

• **Objectives:**

Course objectives include explaining the specifics of science communication processes, understanding the role and importance of science promotion in contemporary society, analyzing strategies and techniques used in concrete science promotion approaches (case studies) and, last but not least, acquiring the necessary tools to create original media products on various channels for science communication.

Communicating Science: Lessons from the History of Science

Dr. Mihnea Dobre (University of Bucharest)

1st April 2022 – 8th April 2022

Format: Online, 3 sessions of 2h

Why do we trust science? The authoritative voice of nowadays scientists is often limited to the audience of their immediate peers. Theories and technologies employed in the scientific practice are too complex for the general public. Yet even a slightly educated public will trust science. This course explores one of the reasons of the current trust in science, which is emerging from the history of science.

The course offers an introduction in the history of science, aiming to familiarize the participants with some of the key concepts in the field. At the same time, the course will showcase the benefits of informing from trusted historical sources, and of avoiding the pitfalls of oversimplification or misrepresentation of several episodes in the history of science.

• Topics to be discussed:

1. The Scientific Revolution of the Early Modern Period
2. What is Science and When It Appeared?
3. How to Distinguish Science from Non-Scientific Topics? The case of Newton
4. Experiments in (Pseudo-)Science
5. Why Communicate Science: the first scientific journals

• Approaches:

The course is interactive. Lectures are kept at the minimum – only to introduce some of the key concepts – and most of the discussions will take the advantage of working with fundamental texts in the history of science. The online format allows us to use already digitized materials, while addressing the issue of accessing reliable resources on the internet.

• Competences acquired at the end of the course:

1. The ability to document reports with reliable information from historical sources.
2. Placing scientific results in a larger narrative structure.

Workshop 4th April

How to read scientific texts

Workshop 6th April

Digital Resources on the History of Science

2. Communication in different contexts – 2 ECTS

Science communication: a perspective of the field beyond outreach

Dr. Ingrid Van Marion (Université libre de Bruxelles)

19th April 2022

Format: Online, 2h

Science communication as a professional activity takes many forms, and in the last three decades it has evolved from a top-down unidirectional message from science to society towards more dialogical and participatory models. This course will use the research on science communication to explore the diversity of contexts, practices and publics in which it is deployed.

The **content** of the course will include:

1. The evolution of the models of science communication
2. Science communication contexts, practices and publics
3. Professional profiles in science communication
4. Defining a science communication strategy

The course will be based on key readings and the analysis of case studies to illustrate the different models of science communication and the professional profiles that may be involved. Participants will learn how to adapt a science communication initiative to specific publics and aims, using the appropriate channels and tools.

Talking about your research to the media and a lay public

Dr. Marc Vanholsbeek (Université libre de Bruxelles)

28th April 2022 / 3rd May 2022

Format: Online, 2 sessions of 2h

This course is made of 2 complementary modules of 2 hours which alternate theory, collective analysis of concrete cases and practical exercises.

- **Module 1** (2 hours): We will revisit the general understanding of the notion of "science communication" and its main communication and societal challenges, notably in the context of the current pandemic. Based on a comparison between the grammars of scholarly communication and persuasive communication, we will see how to communicate the results of a research project orally in an effective way to a non-specialist public, without distorting the epistemic content of the research. In particular, we will learn how to master the arguments of analogy, framing and community when popularising. Basic elements of nonverbal communication will be presented. Participants will have to present in an attractive manner a short statement (1 minute) about their current research project.

- **Module 2** (2 hours):

Through selected examples, we will analyse real situations of science communication, in order to draw practical lessons that can be implemented either in oral scientific popularisation or through audio-visual media.

We will learn how to structure 1) a public speech; 2) answers to journalists.

As a practical exercise, selected participants will present their current research in three minutes, in a popularised and persuasive way.

A preparation form should be completed by participants at least 5 working days before the date of the first module to allow the trainer to adapt to the specificities of each participant's scientific profile and maximize the benefits of the practical exercises.

Sharing knowledge and expertise in collaborations

Dr. Ingrid Van Marion (Université libre de Bruxelles)

6th May 2022

Format: Online, 2h

This course will introduce the concept of knowledge brokering in the context of science communication, and explain how it can be applied to the research activities of the PhD candidates and to their future careers as researchers, or open professional opportunities in other areas in which scientific knowledge is crucial for decision-making (policy, industrial innovation, patient participation...). Knowledge brokering is a bidirectional communication process during which translation and adaptation of expertise takes place between actors with different backgrounds, taking into account their specific contexts and feedback, and facilitating the integration of research into policy and practice.

The course will invite students to reflect on their research project from a knowledge brokering perspective, explain to them how to identify and map the stakeholders that may be involved in or affected by their study. The benefits and challenges of knowledge brokering will be identified, and the skills and personal attributes of a knowledge broker will be analysed, in order to encourage the participants to develop them in the future.

Managing your social media presence as a researcher

Dr. David Domingo (Université libre de Bruxelles)

10th May 2022 / 13th May 2022

Format: Online, 2 sessions 2h

This course will address the differences between general social media platforms (Facebook, Twitter, Instagram, LinkedIn, Youtube) and specialised ones (Academia.edu, Research Gate), in order to help researchers to make strategic decisions about which one to use to communicate about their research and share their expertise.

The course will address the following topics: visibility strategies on social networks; online communities and scientific exchange spaces; harassment and antagonism - issues and solutions. This training is organised in two complementary sessions, alternating discussions, exchanges of experience and practical exercises, with the aim that researchers can reassess their existing uses and plan future strategies.

Writing articles about science for a general public

Dr. Ingrid Van Marion (Université libre de Bruxelles)

17th May 2022 / 20th May 2022

Format: Online, 2 sessions, 2h

Every researcher is learning or has the practice of writing scientific articles. Writing for non-scientific readers requires a different language and structure, with the challenge of being understood by a general public while remaining "accurate".

This course will provide the basics of science journalism as well as techniques and tips to feel more comfortable writing, whether it is a press article, a blog post, or a draft press release. The sessions will include the analysis of articles written by professional journalists specialised in the coverage of science, and by scientists that have taken the challenge of communicating to the general public on news websites such as The Conversation.

3. Practical resources in Science Dissemination – 3 ECTS

Universidad Autónoma de Madrid

24th May 2022 – 12th July 2022

Format: Online, Tuesdays/Fridays, 2h sessions

General description of the practical courses:

• Topics to be discussed:

1. Introduction on how to design and produce a video for Science dissemination
2. Introduction on how to produce a podcast for Science dissemination
3. Introduction on how to interact with general public in interactive /demonstrative dissemination actions
4. Introduction on how to design images and animations for the dissemination of Science

• Approaches:

The course is based on a short theoretical introduction to the topics, and a major practical session guided by the teachers. After a general explanation about resources and tools for dissemination in Science, the students have to develop different prototypes in video, audio, image resources and hands-on activities.

• Competences acquired at the end of the course:

Have a general background about how to design and create videos, audios and animations in relation with Science dissemination. Have enough resources to promote public engagement activities in relation with Science.