

COURSE ON SCIENTIFIC CULTURE

1-4 October 2019
Erice, Italy



MBE
ERICE, ITALIA

INTERNATIONAL SCHOOL ON
MIND, BRAIN
AND EDUCATION



COURSE ON SCIENTIFIC CULTURE

While we might agree on the definition of the concepts of “science” and “culture” by themselves, when we attempt to combine them a panoply of meanings, ideas and arguments arise. The notion of scientific culture, although a theme much discussed in the fields of science history, philosophy, communication and education, is still quite elusive and there does not seem to be a complete agreement on its use.

Do we include the scientific knowledge that arose in the seventeenth and eighteenth centuries, leading to the industrial revolution? Or the appropriation of scientific thought by the general population? What about the role of science in economic and social growth and well-being? Do businesses apply scientific culture when aiming at innovation and creativity? And how does scientific culture relate to the notions of public understanding of science and scientific literacy?

Even if the denomination of scientific culture can be traced to the roots of science enterprises, the name could have been popularized by the famous “two cultures” conference of 1959, widely discussed and, indeed, criticized by its simplicity but still used as a metaphor of the polarization between science and “other areas of culture”. But... this in itself argues for the inclusion of science as part of the ample spectrum of human culture, which brings us back to our original question: what do we mean by scientific culture? How do we measure it, analyze it, apply it, investigate it? And most importantly, why do we need it?

The notion of scientific culture also expands into the development of non-formal venues such as science and technology museums and centers and even into the relationship between the sciences and the arts. Moreover, there are also diverse proposals of a certain “measurement” of scientific culture by means of several indicators that vary substantially. The general agreement towards the definition of such scientific culture is, then, that there is no general agreement upon its definition and broad impact. However, there is an understanding that scientific culture is a desirable aim towards not only popular literacy but also a better quality of life of the people, and than only by a strong basement of scientific thought will countries and regions advance on a sustainable future.

We are very proud to have gathered together a dream team of scientists, artists, and experts from the fields of science communication, outreach and museums that will not only present their views and specific actions on scientific culture, but shall also discuss the foundations and definitions of the concept, hopefully ending on a consensus and recommendations to implement successful programs and projects to enhance the prospect of a more scientifically-educated society.

The Course is organized around the concepts of studying, educating in, inventing sharing and experiencing scientific culture, in order to discuss, and hopefully hint for an answer, the following topics:

What is scientific culture? Actions in search of a common definition.

How does the science-art incestuous relationship contribute to the development of scientific culture?

Which public and institutional policies have proven successful -or not- in terms of scientific culture for society?

What is the role of formal and non-formal education in the development of scientific culture?

We don't promise final answers but, certainly, wonderful questions and lively discussions in the spirit of the now famous Erice School on Mind, Brain and Education.

Let's all live scientific -and Sicilian- culture for the following days. We won't leave the same as we arrived.

Guadalupe Díaz Costanzo and Diego Golombek



Tuesday, October 1st



INTRODUCTIONS

- 09:00** **Antonio Battro** (Pontifical Academy of Sciences, Vatican).
Sebastián J. Lipina (CEMIC-CONICET, Argentina).
Welcome. Presentation of the school.
- 09:15** **Diego Golombek** (Universidad de Quilmes-CONICET, Argentina).
Guadalupe Díaz Costanzo (Centro Cultural de la Ciencia, Argentina).
Presentation of the course.

TOPIC 1: Studying Scientific Culture

- 09:30** **John Falk** (Oregon State University, United States).
*Understanding How the Public Acquires Scientific Culture:
A Learning Perspective.*
- 10:00** **Emma Weitkamp** (UWE Bristol, Science Communication Unit,
United Kingdom).
*Science Communication: negotiating battlegrounds in understanding
science in culture.*
- 10:30 / 11:00** **Break**
- 11:00 / 12:00** **Roundtable:** *Discussion based on Topic 1 presentations and
connections with related broader goals and issues.*
- 12:00 / 15:00** **Lunch & Nap**

TOPIC 2: Educating in Scientific Culture

- 15:00** **Lynn Dierking** (Oregon State University, United States).
*'Junkyards,' 'Shoes,' 'Fearless': Youth Perspectives on
Scientific Culture.*
- 16:00** **Elena Pasquinelli** (Fondation La main à la Pâte, France).
*Teaching and developing critical thinking: the role of scientific
culture and education, the contributions of cognitive science.*
- 16:30** **Sidney Strauss** (Amrita University, India; Tel Aviv University, Israel).
Conveying Scientific Culture to the Lay Public Via Informal Education.
- 16:30 / 17:00** **Break**
- 17:00 / 18:00** **Roundtable:** *Discussion based on Topic 2 presentations and
connections with related broader goals and issues.*
- 18:00** **Adjourn**



TOPIC 3: Inventing Scientific Culture

- 09:30** **Jorge Volpi** (Universidad Nacional Autónoma de México, Mexico).
Spiderwebs and neurons. Art & Science at the National University in Mexico. The experience of the Aleph Festival and ACT Program on Art, Science and Technologies.
- 10:00** **Alan Brody** (Massachusetts Institute of Technology, United States).
The Catalyst Collaborative at MIT (CC@MIT): Science and Theater, a Study in Bilingualism.
- 10:30 / 11:00** **Break**
- 11:00 / 12:00** **Roundtable:** *Discussion based on Topic 3 presentations and connections with related broader goals and issues.*
- 12:00 / 15:30** **Lunch & Nap**

TOPIC 4: Sharing in scientific culture (Part I)

- 15:30** **Jennifer Metcalfe** (Econnect Communication, Australia).
Participatory science communication for immersion in scientific culture.
- 16:00** **Marina Joubert** (Center for Research on Evaluation, Science and Technology, South Africa).
Nurturing a culture of science in an African context - contrasts, challenges and champions.
- 16:30** **Hideaki Koizumi** (International Council of Academies of Engineering and Technological Sciences, Japan).
Scientific and ethical thinking beyond the confines of different cultures: A trial toward a generalized ethics based on the evolution of empathy.
- 17:00 / 17:30** **Break**
- 17:30 / 18:30** **Roundtable:** *Discussion based on Topic 4 presentations and connections with related broader goals and issues.*
- 18:30** **Adjourn**

Thursday, October 3rd



SPECIAL DAY

9:00 / 16:00 **Tour to Segesta**

19:00 **Special dinner:** science and cooking (M. Bucchi).





TOPIC 4: Sharing Scientific Culture II

- 09:30** **Toss Gascoigne** (Australian Science Communicators, Australia).
The Emergence of Modern Science Communication: trends, shifts and movements.
- 10:00** **Bernard Schiele** (Université du Québec à Montréal, Canada).
The words expressing what one does and the words expressing what one thinks he does.
- 10:30** **Helen Jones** (Science Museum, United Kingdom).
Who put that spaceship in the cathedral? A UK perspective on science, culture and society.
- 11:00 / 11:30** **Break**
- 11:30 / 12:30** **Roundtable: Discussion based on Topic 4 (Part II) presentations and connections with related broader goals and issues.**
- 12:30 / 15:00** **Lunch & Nap**

TOPIC 5: Experiencing Scientific Culture

- 15:00** **Sergio de Regules** (DGDC, UNAM, Mexico).
Communicatore traditore.
- 15:30** **Sebastián Lipina** (CEMIC-CONICET, Argentina).
Opportunities and difficulties in the communication of the evidence of neuroscientific studies of child poverty.
- 16:00** **Massimiano Bucchi** (University of Trento, Italy).
From the 'Culture of Science' to the 'Culture of Science in Society'.
- 16:00 / 16:30** **Break**
- 16:30 / 17:30** **Roundtable: Discussion based on Topic 5 presentations and connections with related broader goals and issues.**

FUTURE DIRECTIONS

- 17:30** - Formatting scientific culture.
- Public policies in scientific culture.
- Main ideas for the publication.
- Concluding remarks.
- 18:30** **Adjourn**
- 20:00** **FAREWELL DINNER**

Mind, Brain and Education School

Directors: Antonio Battro / Sebastián J. Lipina

Programme Officer: Lula Majdalani

Course on Scientific Culture

Directors: Diego Golombek / Guadalupe Díaz Costanzo

