

## Re-evaluating Science and Technology through the lens of Arts and Graphic Design. A case study in La Spezia.

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The Human society is getting more and more involved with scientific and environmental issues both in terms of consciousness of good practices or participation in legislative decision-making processes. A common effort to preserve our planet is asked every day, for example through recycling practices, reduction of pollutant emission, use of alternative energies and awareness of risks natural and human-induced hazards.

In addition, public opinion is often involved for issues of scientific interest (e.g. genetically modified organisms GMO). Unfortunately, the Eurobarometer (Eurobarometer Special 419 Report, Public perceptions of Science, Research and Innovation, 2014) indicates, especially for the Italian population, a low interest in science and therefore a lack of confidence in the potential of the research. It is hence important for people to be informed of the progress made by science and the importance of the researchers' role. Education, awareness and dissemination of scientific results and issues must be made through simple and appealing channels that must reach all levels of society and age groups: from children to older people. A common and comprehensible language for everyone can be found in Graphic Arts.

For this reasons, the working group for science dissemination of La Spezia has increased, in recent years, close relationship with some artists (especially graphic designers). The collaboration between two different worlds (art and science) has allowed us to see an unusual approach and to translate concepts developed in images which everyone can understand also under an emotional point of view. Different techniques and tools based on the target to be reached have been employed.

1. Conferences. Gender differences issues in science professions and more generally in society has been addressed through interactive conferences and round tables during the European Researchers' Night 2015 and other occasions for general public. Arguments and questions were described and imprinted in the minds of the public thanks to the support of speed painting and visual scribing, which made it more understandable, interesting and direct.

2. Edutainment activities. Two games have been build up for children aged between 7 and 13 years as a part of the European Researchers' Night activities (2011 and 2014-2015): a great board game with questions and drawings related to marine ecology and environmental protection and a memory game through which children can learn notions on Earthquakes, Volcanoes and Environment. Children's learning is facilitated if bound by game, and in this case images are more direct than words.

3. Surveys. A graphic questionnaire has been created in order to understand science perception and/or stereotypes in children who do not yet know how to read and write.

In all these cases the relationship between researchers and artists has been extremely constructive and fruitful: researchers had to simplify their object of study in order to be able to disclose concepts that have been then translated into a simple and easy language.