

C'Nano 2020

The Nanoscience Meeting

TOULOUSE

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CV/ biography

Nathalie Lidgi-Guigui is a nano-material researcher at the LSPM laboratory of the University Sorbonne Paris Nord. Her main interests go toward molecular plasmonics and contaminant detection.

She received her Ph.D. in 2005 followed by several post-doctoral experiences between 2006 and 2010. During the beginning of her research, she studied the growth of metallic nanostructures and used AFM to measure their interaction with (bio)molecules.

In 2011 she was awarded a lecturer position at the CSPBAT laboratory where she developed ultra-sensitive sensors based on Surface Enhanced Raman Scattering. In 2019 she joined the LSPM where she is working on nanostructuring processes for large scale surface enhanced Raman and Brillouin spectroscopy.

She has a long and enthusiastic experience in innovative teaching and outreach. To mention just a few of her project : "Recrue des Sciences" where the students were asked to make outreach projects. More recently, in 2018 she was invited in the team of "La Physique Autrement" where she developed an original project on clean rooms and nanofabrication. "The nano factory" soon became a board game. Her last project "The metamorphosis of materials" was designed with the purpose of explaining what a process is.

SCIENTIFIC OUTREACH: WHY AND HOW?

Teaching and educating to science are quite an old story. When looking back at how it was done in the past, an important split is observed in France. Before the 19th century, science was part of a general knowledge together with art and literature. Starting around 1850's science was not only separated from humanities but often opposed.

Science was seen as a universal language that could gather everyone when literature was reserved to highly educated people. Paradoxically science teaching was built in a highly discriminatory way, as shown by the low number of students in STEM fields coming from the working classes. This observation led to the development of science outreach.

In the first part of this talk we will see the reason why science outreach started. The second part of the talk will be focused on nowadays motivations for outreach. The diversity of media available in the 21st century offers a wide range of possibilities to communicate. We will consider some examples of recent outreach projects using traditional media such as books, newspaper or exhibition and more moderns one like social media, videos, games, art or smartphones.

Keywords: Outreach, Science education, Media, Gamification