ID de Contribution: **13** Type: **Non spécifié**

Lippmann Photography: the Art and Science of Multispectral Imagery

jeudi 20 avril 2023 15:00 (30 minutes)

Gabriel Lippmann won the 1908 Nobel Prize in Physics for color photography.
It is actually the first example of multispectral imaging. We provide a complete analysis of the process and show, both theoretically and experimentally, what spectrum is reflected from a Lippmann plate.
An algorithmic recovery of the original spectrum is proposed, as well as a digital version of Lippmann photography.
We discuss the application to high-density permanent three-dimensional storage and finish with an example of science communication for the general public.

Joint work with Gilles Baechler, Arnaud Latty, Michalina Pacholska, Paolo Prandoni and Adam Scholefield.

References:
1. Gilles Baechler, Arnaud Latty, Michalina Pacholska, Martin Vetterli, and Adam Scholefield, "Shedding light on 19th-century spectra by analyzing Lippmann photography,"PNAS, April 27, 2021, Vol. 118, No. 17.
2. Gilles Baechler, Arnaud Latty, Michalina Pacholska, Martin Vetterli, and Adam Scholefield, "Lippmann Photography: A Signal Processing Perspective,"IEEE Tr. on SP, July 2022.

Orateur: Prof. VETTERLI, Martin (EPFL)