

Seminar series: Selected research topics in Biomedical Engineering

Location: DBE Lecture Room 14.003.02

13. December 2018, 13:00-14:30, host Mathieu Sarraçanie:

Art and science serendipity for prospective medical imaging

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Abstract:

Quantitation is a key feature for scientific assessment of biological or medical facts. Absolute or relative values of any observable are favoured to objectively either grade, classify, and diagnose diseases or guide therapies and follow up treatments. Thresholds ease the clinical process and may advantageously govern the practitioner's decision. Beyond three-dimensional insights, medical imaging provides such regional observables to feature an actual quantitative patient's clone. Based on developments carried in imaging and processing at the University Paris-Sud, *Primary Intimacy of being* has been developing as an integrative art-science project. It is an interactive exploratory installation where a mirror reflects watchers as MRI, X-rays, or nuclear imaging can probe them. From the medical study of the inner body to the technical challenges of real-time three-dimensional avatar rendering, the project keeps questioning the quantified-self through self-perception and one's intimacy. Along *Primary Intimacy of being*, through the cascading questioning the human-human and human-machine interactions bring, we will track the underlying surprises such a project brings on its way to its actors and to the public. On the basis of shared serendipity these surprises may set the grounds to a rich ongoing scientific culture.

Curriculum:

Dr. Xavier Maître is a physicist at CNRS. Since 2010, he leads the team on Methodological and instrumental developments in the laboratory of Medical Magnetic Resonance Imaging and Multi-Modalities at the University Paris-Sud ([IR4M](#)). His doctoral and postdoctoral works focused on the mechanisms of quantum entanglement and decoherence. His current research works combine atomic physics and medical physics for the development of new tools for exploring the human body. He works on hyperpolarized helium-3 MRI and MR elastography of remote organs. In 2014, he founded a science-art-society group, [Le sas](#), to carry art-science research on human interactions and reality shifts.