Call For Special Session Proposals

Special Session Chair(s):	Title: Machine Learning in Medical Imaging
• **Basel Solaiman** **Full Professor** **IMT Atlantique** • **François Rousseau** **Full Professor** **IMT Atlantique**	**Aims & topics:** Machine learning has for some years now played a major role in the field of medical imaging, including computer-assisted diagnosis, image segmentation, registration and image-guided therapy. Due to the large variations (in term of imaging, anatomy, functions) and complexity, the learning based approach represents a promising alternative to modeling and simulation based methods. As a result, researchers are now focusing on techniques of automatic machine learning and pattern recognition such as supervised, unsupervised, semi-supervised and deep learning to solve problems related to medical imaging. Compared with natural image analysis, medical imaging applications are characterized by the challenges of heterogeneous data, high dimensional features, subtle key patterns hidden by large individual variations and also unknown mechanisms of disease. The objective of this special session is to provide an overview of this field and some of its applications and tools. The addressed topics in this special session are fully related to the ATSIP 2017 conference with the following themes (not exhaustive list): • Computer Assisted Interventional Systems and Robotics • General Medical Image Computing • General Biological Image Computing • Neuroscience Image Computing • Computer aided diagnosis CAD • Neural networks • Bio-inspired methods • Neuro-inspired computing • Machine, deep and manifold learning • Big data analytics for biomedical imaging • Biomedical image processing and analysis • Brain-computer interface application **Email(s):** • Basel Solaiman (basel.solaiman@imt-atlantique.fr) • François Rousseau (francois.rousseau@imt-atlantique.fr)