

Toward Perception-Inspired and Physics-Informed Computational Models for Medical Image Quality Assessment and Enhancement

This talk explores the challenges of medical image quality, highlighting that it cannot be evaluated using objective metrics alone but must consider the visibility of diagnostically important structures and human visual perception. It discusses how integrating perceptual modeling, physics-informed methods, and artificial intelligence can produce more robust, interpretable, and clinically relevant image assessment and enhancement solutions. The presentation also outlines a long-term vision for strengthening collaboration between radiologists and visual information processing researchers to establish sustainable and clinically grounded best practices.



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Dr. Azeddine Beghdadi is a Full Professor (Exceptional Class) at Université Sorbonne Paris Nord and a founding member and former director (2010–2016) of the L2TI Laboratory. He is also the founder and Steering Committee Chair of the European Workshop on Visual Information Processing (EUVIP). He received his MSc in Optics and Signal Processing and PhD in Optics and Image Processing in Paris. With over 350 publications, multiple best paper awards, and extensive supervision of PhD and postdoctoral researchers, his work focuses on image and video quality assessment, computational visual perception, and medical imaging. He serves as Senior Associate Editor of IEEE Transactions on Image Processing and is actively involved in IEEE and EURASIP technical committees.