

**Abstract**

This symposium brings together scientists involved in unraveling the mechanisms involved in medical image perception, both from the perspective of understanding the human observer's perceptual and cognitive processes and understanding how the image and its display environment impact the observer. The symposium will begin with a discussion of why image perception is important and its role in the evaluation of image visualization and analysis tools such as computer-aided detection schemes. This will be followed by a discussion of the role of image quality in medical image perception and how various image quality parameters can impede detection and diagnosis of medical abnormalities. The third talk will describe some of the main approaches being used to model the human visual system as tools to better understand the diagnostic processes and predict how certain imaging conditions affect performance.

**Educational Objectives**

1. Understand the importance of studying perceptual & cognitive mechanisms in the interpretation of medical images.
2. Understand the importance of optimizing image quality (from acquisition to display) in terms of interpretation and diagnostic accuracy.
3. Understand the role of methods used to model the human visual system as a means to better predict observer performance in medical image interpretation.