# How the brain works with feelings

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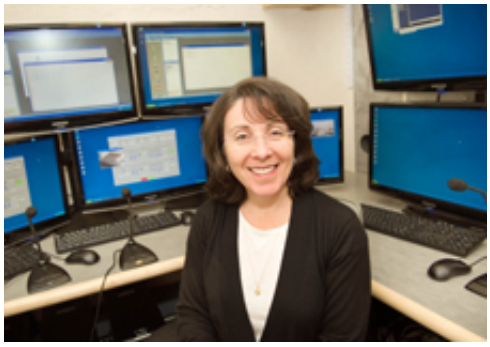

In the inaugural College of Science Colloquium Series lecture, psychology professor Lisa Feldman Barrett explored how emotions function in the mind. Photo by Mary Knox Merrill.

(Medical Xpress) -- People who claim to recognize a burned imprint of Jesus on a piece of toast are channeling what Northeastern University Distinguished Professor of Psychology Lisa Feldman Barrett calls a self-interested perception of the world.

"We take sensory information and match it up to something we have seen before," Barrett told more than 200 students, faculty and staff in the Raytheon Amphitheater last Thursday for the inaugural lecture in the College of Science Colloquium Series. "This is not a failure of science but rather a natural consequence of how the human brain works."

Barrett based her lecture on research conducted in the Interdisciplinary Affective Science Laboratory at Northeastern, which studies how emotions function in the mind by using experiential, behavioral, psychophysiological and brain-imaging methods. The lab's working hypothesis is that words for emotion, such as "fear," "anger" and "sadness," correspond to mental states that can be described as the combination of more basic psychological processes.

On Dec. 1, Barrett, along with associate professor David DeSteno and other Northeastern researchers, will lead an interdisciplinary conference that will serve as the first sponsored event of the newly created Affective Science Institute (ASI). ASI will be a nexus for collaboration, training and the exchange of ideas between researchers and scholars who study emotion and related topics in the New England area. The meet-and-greet event will also feature a poster session and a keynote address from neuroscientist Joseph LeDoux.

As part of her lecture, Barrett described how a technique called semantic satiation could shed light on how language affects our ability to recognize emotions.

Say the word "anger" over and over again and you won't know the meaning of the furious scowl on the face of the person sitting next to you on the subway. Repeat the word "smile" over and over, and you won't be able to tell whether two happy kids with ear-to-ear grins are conveying the same emotion.

"This principle is useful for deactivating the meaning of a word for a split second," Barrett explained. "Perceptual accuracy can drop significantly and influence how you take in information from someone's face."

Barrett said the brain is constantly processing sensory input from both the body and the world and using experience to make sense of images, phrases, sounds and smells. "At any given moment, the brain is doing these things, whether you are experiencing an emotion, cognition or perception," she said.

Half of our waking lives, however, are spent in reverie - lost in daydream. As Barrett put it, "Fifty percent of the time we're not paying too much attention to what's going on the world."

Provided by Northeastern University