Fear is an emotion – a response that produces biological changes throughout the brain and body. But anyone who’s ever been scared knows that a conscious feeling of fear accompanies those bodily changes.

“Feelings are an indispensable part of mind and behavior processes,” says Dr. Antonio Damasio. “Loves, hates, preferences and learning depend critically on feelings.” By studying the neurobiological basis for these emotions and feelings, Damasio says scientists have the opportunity to address long-standing questions in such diverse areas as social behavior, creative thinking, learning and addiction.

Damasio has discovered that a brain area called the insular cortex is critical to our experience of feelings. This region receives messages from neurons about what’s happening in the rest of the body. Using that information, it updates a representation of the chemistry and structure of the body at the moment, providing the brain with a mental picture – the conscious feeling of what happens.