

## **MAKING SENSE OF SENSEMAKING: FROM NEURAL TO SOCIAL NETWORKS**

Sensemaking is a natural kind of human activity in which large amounts of information about a situation or topic are collected and deliberated upon to form an understanding that becomes the basis for problem solving and action. It goes beyond simply finding information. It is involved in learning about new domains, solving ill-structured problems, acquiring situation awareness, and participating in social exchanges of knowledge. Examples of sensemaking tasks include understanding a health problem to make a medical decision, understanding the weather to make a forecast, intelligence analysis to identify strategic threats, and the collaborative collection and understanding of an emergency by first responders. The opportunity (and challenges) are enormous for developing a scientific foundation to better support complex sensemaking in the digital world, whether by individuals or online groups and communities. As Allen Newell suggested, human behavior can be viewed as a hierarchically organized set of systems rooted in physics and biology at one end of the spectrum and large-scale social and cultural phenomena at the other end. Different layers of phenomena dominate at different levels of this organization: neural, psychological, economic, and social--just to name the more familiar. In this presentation I will sample theories and models addressing different layers of sensemaking phenomena ranging from individual cognition to online social communities. I argue that integrated multi-scale theories are needed to understand and predict how microscale factors at the level of the individual percolate upwards to yield macroscale emergent phenomena at the social level and how macroscale social factors percolate downward to shape individual sensemaking.