Plasticity in Sensory Systems

Plasticity is a fundamental property of neural development and learning in living organisms. It also contributes to problems associated with aging and degenerative processes. Understanding neural plasticity has huge implications for those seeking to recover from brain injury or sensory deprivation and for regular people trying to improve their skills and abilities.

Centered around three themes, this book explores the latest research in plasticity in sensory systems, with a primary focus on visual and auditory systems. This book covers a breadth of recent scientific study within the field, including research on healthy systems and diseased models of sensory processing. Topics include visual and visuomotor learning, models of how the brain codes visual information, sensory adaptations in vision and hearing as a result of partial or complete visual loss in childhood, plasticity in the adult visual system, and plasticity across the senses, as well as new techniques in vision recovery, rehabilitation, and sensory substitution of other senses when one sense is lost.

This edited volume is the fruit of the International Conference on Plastic Vision held at York University, Toronto, Ontario, Canada, in 2011. This unique collection of research reviews gives students and scientists an overview of the ongoing research related to sensory plasticity and provides perspectives on the direction of future work in the field.

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