Lecture by

Professor Herta Flor, nominated Honorary doctorate at Aalborg University, 2019
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LEARNING AND MEMORY INFLUENCES ON CHRONIC PAIN

Time: Friday, 3 May 2019, at 10:30-11:30
Venue: AAU, Fredrik Bajers Vej 7B, Auditorium B3-104

Biography
Herta Flor has a background in Clinical Psychology and Psychobiology. She is distinguished for seminal discoveries in the field of pain and phantom phenomena including the cortical processing of pain-related information in humans. Her research focuses on the interaction of brain and behavior, in particular the question how behavior and experience influence neural processes and how neural processes alter behavior and experience.

Abstract
The transition from acute to chronic pain is characterized by a shift from nociceptive brain circuits to those involved in emotion, motivation, and learning. Maladaptive changes in these brain circuits can be induced by associative and non-associative mainly implicit learning processes such as sensitization, operant and respondent conditioning and priming. It is suggested that different concepts of chronicity may have a common psychobiological basis in maladaptive learning and plasticity processes. We provide data from appetitive and aversive pavlovian conditioning as well as instrumental learning related to monetary reward as well as pain relief in subchronic and chronic pain patients. We observed enhanced aversive and deficient appetitive learning as well as a preponderance of pain relief over monetary reward learning with accompanying changes in insula, n. accumbens and frontal brain regions in the course of chronicity. In phantom limb pain we found a major role of preamputation chronic pain and affective distress. Treatments should target these alterations in brain circuits and include both behavioral and pharmacological treatment options. Examples are exposure and extinction training, sensory discrimination training, mirror treatment, virtual reality applications, brain-computer interfaces as well as combinations of these treatments with pharmacological interventions.

Professor Thomas Graven-Nielsen, DMSc, PhD
Director of Center for Neuroplasticity and Pain (CNAP)