



presents



## Distinguished Seminars in Neuroscience and Pharmacology



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*presents*

### *“Identifying the brain’s awareness system: lessons from coma and related states”*

**Wednesday, September 28<sup>th</sup>, 2011, 3:00-4:00 p.m.**  
**Lundsgaard Auditorium, the Panum Institute,**  
**Blegdamsvej 3, 2200 Copenhagen N**



Meet the speaker and your colleagues!  
The department serves light refreshments after the lecture



#### **Abstract**

Understanding consciousness is one of the major unsolved problems in medical science. Recent studies have underscored that recovery of consciousness after severe brain injury remains poorly understood. Many of these investigations are very much in the public eye in part because of their relationship to controversies about end-of-life decisions in permanently unconscious patients and the relationship to one of the major philosophical, sociological, political, and religious questions of humankind. We here focus on our current understanding of the clinical, neuroanatomical and functional underpinnings of human consciousness by emphasizing a lesional approach offered via the study of coma and related states. The challenges are surprisingly difficult with a degree of diagnostic uncertainty that may range at the bedside in some patients from unconscious to fully aware, even for patients with no evidence of behavioral responsiveness. As measurements improve, behaviorally defined states from vegetative state (wakeful unawareness), minimally conscious state (at least some evidence of awareness), and up to patients in locked-in syndrome (full consciousness with virtually no motor control) will reveal subcategories of patients whose level of consciousness we cannot at present with confidence identify.

#### **Selected publications**

Willful modulation of brain activity in disorders of consciousness Monti & Vanhaudenhuyse et al *N Engl J Med*. 2010 362 579-89

Unresponsive wakefulness syndrome Laureys et al *BMC Med*. 2010 8 68.

The neural correlate of (un)awareness: lessons from the vegetative state Laureys *Trends Cogn Sci* 2005 9 556-559.

Default network connectivity reflects the level of consciousness in non-communicative brain-damaged patients Vanhaudenhuyse et al *Brain*. 2010 133 161-71.

Preserved feedforward but impaired top-down processes in the vegetative state Boly et al *Science*, 12 2011.

*NB: PhD students get 1 ECTS point for attending 8 INF seminars – respectively ½ ECTS for 5 INF seminars*