

# IGSN - COLLOQUIUM

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## GAL RICHTER-LEVIN

Department of Psychology, Sagol Department of Neurobiology,  
The Institute for the Study of Affective Neuroscience (ISAN),  
University of Haifa, Haifa, Israel

## A unique role for the dentate gyrus in forming emotional memories

Memory systems in the brain are required to identify the more from the less important stimuli and to memorize only those into long-term memory. One mechanism that may provide indications as to the importance of an incoming stimulus is its emotional load. We have suggested that the emotional load of an experience tags it as important and this tagging supports consolidation of that experience into long-term memory. Searching for potential neural mechanisms that would support such a function we have identified complex interactions between the amygdala, as a source of emotional data and the hippocampus, as a site of memory formation. The dentate gyrus of the hippocampus was identified as a very relevant site of emotion-cognition interaction.

To further examine the role of the DG in emotional tagging in the context of Post-traumatic Stress Disorder (PTSD) we have developed a novel animal model of PTSD, which holds a high level of face validity to the human condition.

Employing this model we have identified GABAergic mechanisms that may be of relevance to PTSD and targets to drug development.

### Hosts:

DENISE MANAHAN-VAUGHAN  
Department of Neurophysiology, Faculty of Medicine, Ruhr University Bochum

OLIVER T. WOLF  
Cognitive Psychology, Faculty of Psychology, Ruhr University Bochum

**Guests are welcome**

