



**INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI
SHORT ABSTRACT OF THESIS**

Name of the Student : Kedarmal Verma

Roll Number : 156141012

Programme of Study : Ph.D.

Thesis Title: Generation and Maintenance of False Memories in Humans: Exploring the Role of Sleep

Name of Thesis Supervisor(s) : Dr. Naveen Kashyap

Thesis Submitted to the Department/ Center : Humanities and Social Sciences

Date of completion of Thesis Viva-Voce Exam : September 14, 2020

Key words for description of Thesis Work : Critical Lures, Intrusions, Studied Items, False Memory, Semantic Associates, Category Associates, BAS, DRM, Recall, Recognition, Line Drawings, Sleep Deprivation, Sensitivity, Response Bias, Retention Interval

SHORT ABSTRACT

Human memories are far from accurate as the process of its formation involves variables that can lead to its reconstruction and distortions. This leads to people remembering events and facts that never happened in reality. Generating and maintaining false memories within the laboratory is difficult. The present thesis experiments with semantic and category associates and compares their effectiveness in generating false memories within the laboratory across varying time delays and retrieval mechanisms. Nocturnal sleep has been known to benefit memory stabilization and consolidation. We reason that since neurobiological mechanisms within sleep promote true memory formation, it may also modulate the formation and maintenance of false memories. The data of our study point to some very interesting results that suggest both semantic and category associates are equally effective in generating false memories that are persistent over long delays. Also, retrievals using recognition leads to higher false memories. Similarly, our results evidence that sleep leads to high false memory generation for only category associates which are persistent across time.