



Psychiatry and Neuroscience Seminar - Nobel Prize Series



Pr James E Rothman

(Host T Galli)



Sterling Professor of Cell Biology and Professor of
Chemistry; Chairman, Department of Cell Biology;
Director, Nanobiology Institute
Yale University, USA

**Recent studies concerning the
mechanism of neurotransmitter
release**

Thursday december 20th, 2018, 2 pm

Amphitheater CHSA, 102-108 rue de la santé - 75014 Paris

Pr James E Rothman, Nobel Prize, PhD

Yale University, USA

Professor Rothman discovered key molecular machinery responsible for transfer of materials among compartments within cells, providing the conceptual framework for understanding such diverse and important processes as the release of insulin into the blood, communication between nerve cells in the brain, and the entry of viruses to infect cells. Numerous kinds of tiny membrane-enveloped vesicles ferry packets of enclosed cargo. Each type of vesicle must deliver its specialized cargo to the correct destination among the maze of distinct compartments that populate the cytoplasm of a complex animal cell. The delivery process, termed membrane fusion, is fundamental for physiology and medicine, as pathology in this process can cause metabolic, neuropsychiatric and other diseases. Rothman reconstituted vesicle budding and fusion in a cell-free system (1984) and discovered the complex of SNARE proteins (1993) which mediates membrane fusion and affords it specificity. He also uncovered the GTPase-switch mechanism which controls coated vesicle budding in the cell (1991).

Professor Rothman was awarded the 2013 Nobel Prize in Physiology or Medicine, with Pr Randy Schekman and Pr Thomas Südhof, for his work on vesicle trafficking.