

Séminaire de Robotique de l'UPMC Sorbonne Universités

MAPPING, LOCALIZATION, AND SELF-DRIVING VEHICLES

John Leonard

Lundi 27 avril - 17H

Salle 24.00

Tour Zamansky

Jussieu



This talk will discuss the critical role of mapping and localization in the development of self-driving vehicles. After a discussion of some of the recent amazing progress and open technical challenges in the development of self-driving vehicles, we will discuss the past, present and future of Simultaneous Localization and Mapping (SLAM) in robotics. We will review the history of SLAM research and will discuss some of the major challenges in SLAM, including choosing a map representation, developing algorithms for efficient state estimation, and solving for data association and loop closure. We will also present recent results on real-time dense mapping using RGB-D cameras and object-based mapping in dynamic environments.

John J. Leonard is Professor of Mechanical and Ocean Engineering and Associate Department Head for Research in the MIT Department of Mechanical Engineering. He is also a member of the MIT Computer Science and Artificial Intelligence Laboratory (CSAIL). His research addresses the problems of navigation and mapping for autonomous mobile robots.

