Paul Newman Abstract

Abstract:

We need robots that work reliably and ceaselessly. We need them to drive, defend and labour for us. An essential competency is persistent life-long navigation - the ability of a machine to perpetually understand its environment and its relationship to it. This is a tough problem and one which has vexed the mobile robotics community for decades - and it still does. In this talk I will discuss recent step changes in performance in infrastructure free-navigation and mapping using active and passive sensors. I will give particular attention to the role of probabilistic inference in tackling large scale navigation problems. I will look ahead to the application domains which stand to benefit from the state of the art and the domains which, because of a lack of persistence, remain closed off - but in that frustration lies the challenge.