

## Vortragsankündigung

Am

**Dienstag, 26. Februar 2019**  
**in Raum P1.3.01 um 14.00 Uhr**

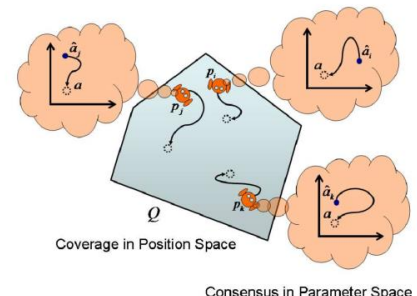
hält Herr Prof. Srikant Sukumar, Indian Institute of Technology Bombay einen Vortrag über

### **Techniques for coverage control using multiple mobile robots**

#### **Abstract:**

The talk discusses techniques for coverage control using multiple mobile robots.

Coverage control refers to the deployment of mobile robot sensors in order to cover a given region in space where some event of interest is to be characterized. We present a general overview of the field and also summarize some of our earlier contributions on the coverage control problem. We then discuss in more detail the  $L_2$  coverage problem where we introduce parameter convergence issues and compare the locational optimization framework with the  $L_2$  framework using experimental data obtained via differential drive robots. We finally delve into the problem of estimating the phenomenon, wherein instead of looking to cover the area, the robots move so as to accurately identify the phenomena density function. We give a peek into the current results developed in this context and the way ahead.



#### **Bio:**

Srikant Sukumar completed his PhD in Aerospace Engineering in 2011 from the University of Texas at Austin, USA specializing in nonlinear and adaptive control. His doctoral work was on stabilization of singular control gain systems. Since then, he has been a faculty at Systems and Control Engineering, IIT Bombay. His current research revolves around cooperative and networked control using Lyapunov and nonlinear control based methods. Other areas of interest include geometric, nonlinear and adaptive control with mechanical and aerospace system applications. He is a member of the IEEE Conference Editorial Board and the technical committee for Aerospace control. He has also served as Associate Editor for the American Control Conference and is on the International Program Committee for the Indian Control Conference. He is a recipient of the Max Planck Travel Fellowship 2014-18.