Chemical Engineering Seminars – TT 2009

Week 0, Wednesday April 22nd 2009, 4:00PM-5:00PM
Lecture Room 2, Thom Building, Engineering Science

Image-based Sensors for Control of Particulate Processes

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Abstract

On-line monitoring of particle shape and size distribution is a challenge frequently faced by the traditional pharmaceuticals and fine chemicals industries. The control of particulate processes is particularly compounded by the lack of process understanding and in-situ sensors. With regulatory initiatives such as the US Food and Drug Administration's (FDA) Process Analytical Technology (PAT) program for the pharmaceutical industry and the ongoing improvement in real-time imaging hardware (exemplified by Focused Beam Reflectance Measurement, FBRM and Particle Vision and Measurement, PVM, both from Lasentec), there is a growing interest to develop control technologies using advanced imaging sensors. In this work, I will describe some of our research in image analysis targeted at real-time control of crystallization processes.

Biography

Rajagopalan Srinivasan is an Associate Professor in the Department of Chemical & Biomolecular Engineering at the National University of Singapore. He is concurrently a Principal Scientist at the Institute of Chemical & Engineering Sciences, where he leads the Process Systems & Control team. Raj received his B.Tech from IIT Madras in 1993 and his PhD from Purdue University in 1998, both in Chemical Engineering. He worked as a research associate in Honeywell Technology Center, Minneapolis, before joining NUS. Raj's research program is targeted towards developing artificial intelligence and systems engineering approaches for process design & control and enterprise optimization.