

Wednesday
June 12, 2013
2 p.m.

Lecture Room:
V 7.02

Universität Stuttgart
Campus Vaihingen
Pfaffenwaldring 7

Peter Sagirow Distinguished Seminar Series

About the Peter Sagirow Distinguished Seminar Series

With this annual seminar series the Institute for Systems Theory and Automatic Control intends to honor the late Peter Sagirow and the decisive role he played in the development of the field of automatic control at the University of Stuttgart. Each year a highly distinguished researcher is brought to campus to report on the state of the art, achievements and challenges in the field of systems and control.

The Health of Control



Prof. Graham C. Goodwin
BSc, BE, PhD, FRS, FIEEE, Hon.FIE.Aust.,
FTSE, FAA

**Professor Laureate of
Electrical Engineering
University of Newcastle, Australia**

Abstract

Feedback control has a long and rich history. Major technological developments which depended, inter alia, on control were the industrial revolution in the 18th century and the space race in the 20th century. In the 21st century feedback control underpins many advanced technologies including mobile telecommunications, high performance transportation systems and future electricity networks. Another problem of great importance to control, which has emerged in the last decade, is that of health.

In this talk we will focus on the application of advanced control to problems in the area of health. In particular, we will study problems associated with

- ambulance crew rostering,
- ambulance scheduling, and
- organ replacement therapy.

Technically, these problems lead to design questions in nonlinear, stochastic environments. We will (briefly) allude to the technical issues. However, in the main, the talk will focus on problem formulation and societal impact. Thus, the talk will be aimed at a general audience.

About the Speaker

Graham Goodwin obtained a B.Sc (Physics), B.E (Electrical Engineering), and Ph.D from the University of New South Wales. He is currently Professor Laureate of Electrical Engineering at the University of Newcastle, Australia. He holds Honorary Doctorates from Lund Institute of Technology, Sweden and the Technion Israel. He is the co-author of eight books, four edited books, and many technical papers. Graham is the recipient of Control Systems Society 1999 Hendrik Bode Lecture Prize, a Best Paper award by IEEE Transactions on Automatic Control, a Best Paper award by Asian Journal of Control, and two Best Engineering Text Book awards from the International Federation of Automatic Control in 1984 and 2005. He received the 2008 Quazza Medal from the International Federation of Automatic Control, the 2010 Nordic Process Control Award, the 2010 IEEE Control Systems Field Award and the 2011 Asian Control Association Wook Hyun Kwon Education Award. He is a Fellow of IEEE; an Honorary Fellow of Institute of Engineers, Australia; a Fellow of the International Federation of Automatic Control, a Fellow of the Australian Academy of Science; a Fellow of the Australian Academy of Technology, Science and Engineering; a Member of the International Statistical Institute; a Fellow of the Royal Society, London and a Foreign Member of the Royal Swedish Academy of Sciences.