



IEEE – CS/R&A Joint Societies Chapter, Queensland,
EA - ITEE Queensland, and
EA – Electrical Branch Queensland
Presents:

What is so special about Mechatronics?

Much of the "gee whizz" of robotics has faded, as microcontrollers have taken over our lives. They surround us in our washing machines, motor cars, air conditioners - and in the screens that glow at us across our desks. But I still feel that mechatronics is the engineering discipline in which we can have most fun. While others stretch specimens to destruction or struggle to measure salinity, we can balance inverted pendulums, use vision and GPS to guide mobile robots or train an eight legged robot to dance the Hokey Cokey. In distilling the essence from the more prosaic disciplines, the mechatronic engineer has the broadest selection of the choices that underpin all engineering design.

Date: Monday 2 August 2004
(Light refreshments will be provided from 5:30pm)

Venue:
Hawken Auditorium
Engineering House
447 Upper Edward St
Brisbane

Time:
5:30pm for 6:00pm

Cost:
This is a Free event

Speaker:
Professor John Billingsley
The University of Southern Queensland

John Billingsley has had a long history of research and R&D. In the early 1960s he devised novel algorithms for controlling a commercial autopilot. Soon afterwards, in Cambridge, he worked on fast-model predictive control. His Cambridge interests turned to a multicomputer system - more closely bound than a network - and the real-time analysis of sound source distributions in the 'Acoustic Telescope'. In 1976 he moved to Portsmouth, where a multitude of research projects were closed linked with local industry. Embedded microcomputers featured in marine autopilots and in simple controllers for domestic appliances. He founded a company developing software that was embedded in a large proportion of domestic cookers throughout the United Kingdom. Another company, still in existence, sold systems to hospitals for capturing and analysing the menu choices of patients! A further company, of which he was one of the seven founding directors, developed and sold wall-climbing robots to the nuclear industry to assess and improve the safety of power-station containment vessels.

On moving to Toowoomba in 1992, he found that the most pervasive industry was agriculture. A vision-guided self-steering tractor was a world first, but the marketing exercise through a major multinational was not a success. Nevertheless, the NCEA (National Centre for Engineering in Agriculture) has hosted commercial exploitation of many parts of the technology, coupling GPS sensing to tractor steering and selling for several times the original price set for the whole vision system. The vision aspects of research have now spread well beyond guidance, with fascinating aspects that will be presented in the talk. USQ has now acquired the latest eight-legged robot designed by Portech Ltd, the result of multi-million dollar funding by the EC.

Yes, I will be attending “What is so special about Mechatronics? “ on 2 August 2004

To register:

- Registrations can be made online at www.qld.engineersaustralia.org.au
- Fax your registration to (07) 3832 2101
- Email a completed form to Sarah McLennan at smclennan@engineersaustralia.org.au
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Name (s) _____

Company _____

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