



**CCDC Seminars
Presents**

Sensor Network Localization

with

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Abstract:

Sensor network localization is the task of establishing the absolute positions of a network of sensors given limited information, such as distances between pairs of close sensors and the positions of a small number of beacon sensors. The question of solvability of the problem can be addressed using concepts of rigid graphs, and in particular the concept of a globally rigid graph, but this concept is much better understood in two dimensions than three dimensions. Actual computation is another matter, and may require calculations growing exponentially or linearly with the number of sensors. Random sensor networks are also considered, where sensors are scattered following some defined law.

Conditions ensuring that the network, or most of it, will be localizable, and indeed localizable in linear time, will be described.

About the Speaker:

Professor Anderson has served as a member of a number of government bodies, including the Australian Science and Technology Council and the Prime Minister's Science, Engineering and Innovation Council. He is also a member of the Board of Cochlear Limited, the world's major supplier of cochlear implants. He is a Fellow of the Australian Academy of Science and Academy of Technological Sciences and Engineering, the Institute of Electrical and Electronic Engineers, and an Honorary Fellow of the Institution of Engineers, Australia. In 1989, he became a Fellow of the Royal Society, London, and in 2002 a Foreign Associate of the US National Academy of Engineering. He holds honorary doctorates of the Catholic University of Louvain in Belgium, the Swiss Federal Institute of Technology, and the Universities of Sydney, Melbourne and New South Wales. He was appointed an Officer of the Order of Australia in 1993.

He was President of the International Federation of Automatic Control for the triennium 1990 to 1993, and served as President of the Australian Academy of Science for four years from 1998 to 2002.

Professor Anderson became the Chief Scientist of National ICT Australia in May 2003.