



A NEW CENTRE IN OPTIMISATION

This growing complexity of modern business and industry has necessitated the development of sophisticated mathematical techniques for improving efficiency, effective planning and decision making. Indeed, the effective utilisation of resources to gain higher productivity and to provide better customer service is an essential task for survival in today's highly competitive environment. Western Australian industry has only a limited appreciation for the benefits which can be derived from the application of optimisation technology. This is largely due to a lack of expertise in state-of-the-art optimisation technology amongst industry personnel. Even for larger organisations operating in WA it is often difficult and not viable to fully establish such expertise internally.

In recognition of the significant contribution that industrially focussed optimisation technology can make towards increased efficiency and productivity of local business and industry, Curtin University of Technology has established the Western Australian Centre of Excellence in Industrial Optimisation (WACEIO). The Centre is funded through the Western Australian State Government Centres of Excellence in Industry Focussed Research and Development Scheme. WACEIO will bring together a number of independent research groups from the Department of Mathematics and Statistics, the Australian Telecommunications Research Institute (ATRI), the Muresk Institute of Agriculture and the Defence, Science and Technology Organisation (DSTO). This combination of expert researchers proficient in both the applied and fundamental aspects of industrial optimisation will bring a unique synergy to the research activities and direction of the Centre. By merging both users and developers of industrial optimisation, WACEIO is the first of its kind in Western Australia to conduct innovative, industrially relevant, optimisation research and development as well as a range of industry focussed training programs.

WACEIO's vision is:

To be acknowledged as the leading research centre for the provision of innovative industrial optimisation technology in the Asia Pacific region.

WACEIO's mission is:

To provide state of the art industrial optimisation expertise to improve the efficiency and international competitiveness of the agriculture, mining and petroleum, defence, telecommunications and transport industries in Western Australia and nationally.

The Centre will achieve this by:

- Developing high level mathematically based optimisation tools to solve problems in industry.
- Conducting industry focused research and development in areas such as optimal resource utilisation, scheduling, planning, network design, project management, risk management and decision analysis.
- Consolidating and expanding on current collaborative research projects and industry links.
- Seeking and responding to new collaborative and/or contract research with industry.
- Conducting quality training courses aimed at industry, government and business organisations which

cover specialised operations research techniques such as quality control, forecasting, risk management, process control and the use of optimisation software packages.

- Offering an internationally recognised and industry oriented postgraduate program in industrial optimisation which will attract high quality students. In addition to the traditional postgraduate research courses, WACEIO will offer:
 - Graduate Certificate in Industrial Optimisation
 - Diploma in Industrial Optimisation
 - Masters in Industrial Optimisation
 - Professional Doctorate in Industrial Optimisation
- Providing operations research consultancy services for national and international industries.
- Impart knowledge to industry and commerce through dissemination and awareness programs such as workshops, seminars and mini conferences.
- Establishing a national and international reputation in the area of applied industrial optimisation that will attract high quality researchers, industry focussed research projects and competitive research funding.
- Establishing strong collaborative links with Optimisation Groups both in Australia and overseas.
- Promoting the use and benefits of optimisation technology in Australian Industry.

Lou Caccetta

Director WACEIO

<http://www.maths.curtin.edu.au/consulting/waceio.html>