

# **Computer, Power, Telecommunications, and Microelectronics**

## **COMMUNICATIONS AND SIGNAL PROCESSING**

### **Examples of Consulting Services**

- Communications and Signal Processing research group activities can be coordinated through numerous grants from government and industrial funding agencies. New and exciting topics are emerging as the group embarks on several consulting initiatives.
- Long-term theoretical research. These activities have often been in collaboration with UAE universities or with other internationally renowned research teams.
- Algorithm development, systems analysis, and computer simulation.
- Proof-of-concept system and subsystem implementation.
- Help companies in planning for wireless products regulatory submission.
- Technology assessment
- On design and development of digital signal processing algorithms for biomedical applications
- Expert assistance during review discussions.
- Help mobile operators and investors with the system design aspects of planning and implementing new networks and services.
- Radio Propagation Analysis
- Microwave and RF Control Link Design.
- Radio Design and Implementation.
- Single and Multi-Site Trunked Radio System Design
- Site Development and Tower Design.
- Mobile Satellite Link Budget Design
- Wireless Consulting Services.
- Wireless Interference Detection and Analysis.

## **POWER AND AUTOMATION RESEARCH GROUP**

### **Examples of Consulting Services**

- Develop fuzzy and adaptive control algorithms for industrial applications.
- Develop dynamical models for estimation, filtering and control.
- Develop algorithms for system monitoring and fault detection in automated systems
- Develop control algorithms for time-delay systems, such as chemical processes and communication systems.
- Develop constant parameters non-linear model for electrical power steering AC drive Application
- Develop Fet switching algorithm to minimize EM emissions in AC drive
- Design of switch-mode power supplies.
- Design of Microcontroller/DSP based solar power converters.
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- EMC/EMI issues in power electronic converter and industrial motor drives.
- Monitoring and measuring disturbances in Electric Power systems.