

RESEARCH JOB OPENINGS IN SINGAPORE

A*STAR SERC
Ultra Wideband-enabled Sentient Computing (UWB-SC)
Research Programme

**UWB-enabled Sentient Computing Architecture and Middleware with
Coordinated QoS (USCAM-CQ)**

This project aims to take advantage of the unique characteristics of Ultra Wide Band (UWB) technology to develop algorithms, architecture and middleware which provide a high level of assured information quality and quality of service to sentient computing applications. This will enable them to be used with confidence in mission-critical applications.

Positions Available: POST-DOCTORAL RESEARCH FELLOWS

Research Position 1

Responsibilities/Scope of Work:

- Conduct research on location-aware MAC and routing algorithms for UWB-based multi-hop wireless sensor networks.
- Develop computational and wireless network resource management algorithms to achieve end-to-end quality of service in a distributed real-time system.

Required Skills/Qualifications:

- Good Ph.D. degree from a reputable university and strong background and experience in design and analysis of MAC and routing algorithms and protocols for wireless multi-hop networks.
- Strong statistical analysis skills and knowledge of UWB and/or ZigBee technology.
- Experience in analysis and implementation of distributed real-time systems.
- In-depth knowledge of one or more of the following areas: distributed optimization, Markov Decision Process, multi-agent system and game theory, would be an added advantage.

Research Position 2

Responsibilities/Scope of Work:

- Conduct research on distributed mobile sensing and estimation, and self-organizing and mobile wireless sensor networks.
- Develop algorithms based on distributed control, multi-agent systems (MAS) and robotics to enable system to actively respond to events in order to maintain a high-level of sensing, estimation and tracking accuracy.

Required Skills/Qualifications:

- Good Ph.D. degree from a reputable university and strong background and experience in distributed mobile sensing, distributed optimization, self-organizing and adaptive systems, coordination in multi-agent systems and/or mobile robotics.
- In-depth knowledge of one or more of the following areas: perceptual input and signal processing, sensor fusion and estimation (Bayesian estimation, Kalman filter, particle filter, non-parametric estimation), Markov Decision Process, game theory and/or distributed control, would be an added advantage.

Please contact the Project Principal Investigator:

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**See <http://cnds.ece.nus.edu.sg/uscamcq/> and
<http://cnds.ece.nus.edu.sg/uwb-sc/> for more information**