**Simon G. M. Koo, University of San Diego**

**FIE Paper Session: S2C (Saturday, 10:00 - 11:30 a.m.)**

**FIE Paper Title: Ethical and Legal Awareness in Location-based Wireless System Design Projects**

**Location Discovery Service**
- Location-based services designed for enterprise and campus wireless networks
- Allows user to locate points of interests without the use of GPS
- Extends to practical applications such as printer locator, friend finder, etc.
- Requires “tracking” of user movements, and yet needs to protect user’s privacy

**Architecture & Design Issues**
- Ethical and Legal awareness are important in software and network design, and should be introduce throughout curriculum
- Students who have encounter similar situation will be able to identify potential ethical and legal issues in the future
- Does not require a high level of technical competence of students to appreciate the significant of the issues and propose solutions
- Projects and case studies are the best place to introduce these ideas.

**Ethical and Legal Awareness**

1. User identity must not be reviewed
2. Measurement should not pinpoint particular users
3. Mobility record of user and user identity must be detached from each other
4. Particular users may be able to track themselves if desired

**Research Interests**

**My research interests include:**
- The design and analysis of computer communication networks and distributed systems, particularly on peer-to-peer networks and body sensor networks
- The use of wireless technologies (WiFi, bluetooth, GPS) to enhance classroom learning experiences
- Computer science and engineering curriculum design, with emphasis on capstone projects innovation and undergraduate research for liberal arts colleges
- Financial engineering and applied operations research

**Teaching Interests**

**My teaching interests include:**
- Introduction to computer science (CS1), focusing on programming concepts and problem-solving skills
- Internet-based courseware design and development
- Mathematical implications and applications for computer science and engineering
- Networking science and technology
- Interdisciplinary courses such as social networks, bioinformatics, game theory, and computational finance