

## **Moving Toward an Intelligent Interactive Social Engagement Framework for Information Gathering**

**Invited Talk: Cindy L. Bethel, Ph.D.**

### **Abstract:**

The objective of this research is to investigate the use of robots as intermediaries to gather sensitive information from children. The research is multidisciplinary in nature. The goals will be accomplished through the development of an integrated robotic framework that includes a novel architecture and an interactive user interface to gather information using methodologies recommended for forensic interviews with children. The Interactive Social Engagement Architecture (ISEA) is designed to integrate behavior-based robotics, human behavior models, cognitive architectures, and expert user input to increase social engagement between a human and system (e.g., robot, avatar, etc.). ISEA provides for the autonomous generation of robot behaviors for self-preservation and to convey social intelligence. The framework is designed to be modular and adaptable to different applications and domains; however for this project, the focus is on social engagement for information gathering. The interactive user interface provides interviewers with the ability to use a robot as an intermediary for gathering this information. The interface and framework have been iteratively improved through observations from user studies conducted to date with 186 children ages 8-12. This project compares the effectiveness of robot versus human interviewers to gather sensitive information from children using situations in which this would commonly occur -- cases of child eyewitness memory and child reports of bullying. This research has the potential to transform how sensitive information is gathered as it relates to criminal investigations and proceedings.