William L. Honig, Ph.D.  
Associate Professor

*Programming in the Small; Highly Reliable Systems; Mobile Everything*

**My Interests and Current Research**

Small systems where the developer controls everything (real time, size, performance, reliability). You learn new things when everything the system does is under your control!

Robots require careful control of many more kinds of inputs than a typical PC based system (vision, touch, sound, light).

Building custom hardware as well as software: sensors, control units to interact with the environment or to measure the environment.

All the above require high quality software engineering using careful process and measurement of quality metrics.

**Industry Background**

Prior to joining academia, Dr. Honig held senior industry positions leading Research and Development organizations in Motorola, U S WEST, GTE Corporation, International Telephone and Telegraph, and Bell Laboratories. His academic interests are bringing “real-world” computing to the classroom. He has received grants from NSF, DARPA, HP, Google, and local government organizations.

**Overview of Programs**

**Robotics**

The department has a variety of tracked and humanoid robots. Some are transformable and extensible adding custom sensors. Some are cute.

All of them stress small scale programming and real time control and interaction.

**Small Scale Programming**

Microcontrollers such as Arduino and pcDuino are the kinds of computers inside many products (think toasters). You can have full real time control and know everything about the system.

The department has a wide range of sensors and electronic piece parts to create new devices.

**Wearable Area Networks**

Your PC is so last-century. Combine mobile devices, sensors, and new evolving kinds of networks to see the future of computing.

I use Android as the base but if you are capable in iOS we can try to connect it too!