

# Proposal for Certificate Program

Title: **Graduate Certificate in Health-Assistive Smart Environment Design**

Certificate Program Chair:

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## 1. Rationale for Certificate Program

People have always lived in places that provide shelter and basic comfort. As society and technology advance there is a growing interest in adding intelligence to our living and working environments. Expertise in machine learning, pervasive computing, and sensor networks has matured to the point where they can be integrated into a new field known as *smart environments*. A major societal impact of smart environments is assisting people with special health needs. To most people home is a sanctuary, yet today those who need special care often must leave home to meet medical needs. To investigate the design, usability, and testing issues for health-assistive smart environments, we need a new type of PhD researcher who is trained in the transdisciplinary areas of engineering, psychology, sociology, and health care and is poised to make scientific advances in this field that will benefit society. Today's medical program graduates are largely unaware of the assistance that technology can provide: the National Academy of Engineering and the Institute of Medicine have already recognized a need for a closer partnership between these disciplines.

Our vision is to change the culture of graduate education from the traditional isolation of topics in science and engineering to an approach that integrates the study of psychology, sociology, health care, sciences, and engineering support for individuals with special needs. The National Science Foundation has recognized the value of this program and has provided funding for an IGERT program centered on this theme. We would like to design a certificate program that will be offered to IGERT Fellows and other graduate students that complete the program components that are detailed in this proposal.

## 2. Target Audiences

The target audiences for this certificate program are graduate students in engineering, psychology, sociology, nursing, and the sciences; however, the certificate program is open to any individual who meets the Graduate School and the Certificate Program admission requirements and who the prerequisites for the required coursework. Students who are Fellows in the Smart Environments IGERT program are required to complete this certificate program.