

AUTOMATION DESIGN ADVANCING PEOPLE AND TECHNOLOGY (ADAPT) LABORATORY



The ADAPT lab focuses on emerging partnerships between people and technology to improve the productivity, quality, and safety of work systems. A large part of our mission is to understand the mechanisms that contribute to organizational resiliency in high-criticality work environments. In our research, we have three main thrusts: 1) identify barriers or opportunities for new technology implementation, 2) evaluate the impact of current technology on human processes, and 3) conduct fundamental research on the social and structural mechanisms influencing cooperation in complex sociotechnical systems. As healthcare organizations aim to optimize disparate components to deliver sustainable patient-centered care, a better understanding of how technology can negatively influence or effectively integrate the multiple patient, provider, and payer perspectives is needed.

In previous work, we have used:

- Structured interviews and observational methods to understand patient and provider perspectives on the use of an end-of-life decision making aid,
- quantitative video ethnography to explore the impact of electronic health records on physician workflow and patient communication, and
- contextual design to model medication management strategies of older adults living in rural areas.

Current projects are using:

- Laboratory microworld studies to understand human-agent interactions and
- tradeoffs of interruptions in healthcare.
- We are also evaluating consumer health devices to model behavioral change strategies.

There is considerable flexibility for students to propose their own projects related to the above mission, given their background and experience. We have lab space located at the Polytechnic Campus in Mesa, AZ for conducting human subjects research or focus groups. Data collection tools and software for quantitative or qualitative data analysis can be made available. Students can expect to collaborate closely with the director and receive training and exposure to a variety of health systems engineering and human factors approaches.

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