

Our Guest Editors

Nurse robots, smart houses and cars, telemedicine, virtual family gatherings—the brave new world of technology meets an aging society. What are the implications for older people? Better care, greater independence, easier communication? Or depersonalization, threats to privacy, and a growing “digital divide” between tech-savvy younger generations and reluctant elders, between those who can afford the latest devices and services and those who can’t?

The *Generations* editorial board has asked Sara Czaja and Richard Schulz to guide an examination of this pressing question. Czaja is a professor in the Department of Psychiatry and Behavioral Sciences at the University of Miami Miller School and in the Department of Engineering, and she is also codirector of the Center on Aging. Schulz is a professor of psychiatry, director of the University Center for Social and Urban Research, director of gerontology and associate director of the Institute on Aging at the University of Pittsburgh. Both are at the forefront of efforts to ensure that current and future technological innovations fulfill their potential to improve the quality of older people’s lives.

When Sara Czaja was an undergraduate in psychology, professors introduced her to the field of aging. “My older relatives were actually experiencing the situations I was studying,” she says. “The community homes and facilities we visited at the time were not well developed or thought-out. This all resonated with me.” She later earned her doctorate in human factors engineering, the study of human capabilities, characteristics, and limitations in relation to machines and the environment. The combination has been an excellent fit. “I’m interested in how we can apply what we know about the process of aging to the design of systems and



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environments to enhance their usability for older adults,” she says.

Czaja is known for her research in aging and cognition, caregiving, human-computer interaction, training, and functional assessment. She is director of the Center on Research and Education for Aging and Technology Enhancement (CREATE), a collaborative project funded by the National Institute on Aging to make technology more accessible, useful, and usable for older adults. She is the author (with Fisk, Rodgers, Charness, and Sharit) of *Designing for Older Adults: Principles and Creative Human Factors Approaches* (Taylor and Francis, 2004) among many other publications.

“Technology in and of itself is not a solution,” she says. “It must be integrated appropriately into existing programs and systems in order to work for older people, especially in the crucial areas of healthcare, productivity, and communication. Our research has found that elders, even the oldest old, are really willing to use the technology; to a great extent, the digital divide is a result of poor design and poor application. We’ve shown that this can be changed. And, interestingly, changes that are made to benefit elders typically turn out to make the technology more usable for people of all ages.”

Richard Schulz is also drawn to applied areas and has focused on adult development and aging, particularly the social-psychological aspects and the impact of disabling late-life disease on patients and their families.

He has conducted landmark research on family caregiving, including technology applications to improve quality for all concerned. His widely respected publications on various aspects of adult development and aging have earned him recognition as a “highly cited researcher” by the Institute for Scientific Information and as a recipient of the Kleemeier Award for Research on Aging. He is the editor in chief of the *Encyclopedia of Aging, 4th Edition* (Springer, 2006).

Recently, Schulz was named director of research at the University of Pittsburgh for the new Quality of Life Technology Engineering Research Center, a partnership of the University of Pittsburgh with Carnegie Mellon University, funded by the National Science Foundation.

It was through his work on caregiving and related health policy issues that Schulz first became interested in technology applications. “With the growing demand for caregiver support services, it is essential that we explore all avenues for maintaining the quality of life of caregivers and their care recipients,” he says. “There is an urgent need for specialists from aging, engineering, behavioral science, economics, and allied professions to find ways to maintain older individuals in their preferred environments, and technology can play an



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important role in achieving this goal. It is critical that these experts work closely and as equal partners with the caregiving community, health-care providers, and policy makers to ensure that new technologies are safe, user-friendly, and cost-effective.

“The contributors to this issue remind us that reaping the benefits of existing and emerging technologies requires that we address a host of challenges inherent in the application of any new technology. At the same time, they provide us with a vision of a more positive future and a roadmap for getting there.” ❧

—Mary Johnson