



Successful Aging for Independent Living (SAIL)

Project SAIL is a university-wide interdisciplinary research incubator and laboratory cluster dedicated to accelerating the development of low-cost, user-friendly technologies that maximize the safety, health and well-being of older adults as they age and thrive in their homes and communities.

Participating UMaine centers and laboratories:

- Advanced Biomechanics Laboratory for Injury Reduction and Rehabilitation
- Center for Community Inclusion and Disability Studies
- Center on Aging
- Virtual Environments and Multimodal Interaction Laboratory
- Wireless Sensing Laboratory

Engaging older adults and professional communities

The participation of older adults in consumer focus groups and continuous field testing ensures that the technologies developed are responsive to the needs and wants of this target demographic. Specialists in geriatrics ensure that technology development is informed by the physical, behavioral and social dimensions of the aging experience, as well as clinical best practices.





Examples of technology under development:

- An augmented reality, **edge detection device** that employs the use of computer vision to improve visibility
- A convenient, foldable, actively steered, three-wheeled **standing support device** that provides balance and weight-bearing assistance during movement, and is fitted with biofeedback and innovative load-sensing technology
- A **smart mattress pad** that monitors sleep-related movement, including the analysis of body movements such as changes in heart rate and respiratory patterns
- **Protective head gear** that employs a novel, contoured impact-resistant structure, designed for aesthetic appeal, function and comfort
- A **hip protection system** consisting of undergarments and a changeable, fashionable shell that can be used by older adults at risk of falling
- Delay-tolerant, **indoor navigation wireless networking technologies** with vital sign sensors to track movement, detect falls, and accelerate response time by first responders
- A **driving simulator** that uses augmented reality to superimpose higher-contrast edges, and magnifies road signs and markings, for easier identification



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