

Aging Technical Group Newsletter

Fall 2017



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Message from the Chair

Dear ATG members,

Hard to believe, but the relatively relaxed pace of the summer is coming to a close and the rush of the fall semester is beginning to occupy our attention. Along with that comes the excitement of the upcoming HFES Annual Conference.

We have an outstanding program this year, which is outlined in this newsletter thanks to our newsletter editor William Leidheiser. The quality of the program is thanks to all of you who submitted work, served as reviewers, and Ranjana Mehta, our excellent program chair who coordinated and organized our program. Thank you!



Kelly Caine

As you make your professional service goals for 2017 – 2018, I encourage you to consider how serving the ATG fits in with your plans. We would love to you begin or continue serving with us. In particular, please plan to nominate yourself or a colleague to serve as an ATG officer. Position descriptions are on page 4. Nominations are due August 16th, 2017.

Our Business Meeting Lunch will be held at the traditional day and time of Wednesday at Noon of conference week (October 21st at noon). During the meeting we will recognize new officers, update members on the group's financial status, announce the winner of the Arnold Small student technical paper award, and reconnect with our colleagues. If you have agenda items you would like to discuss during the business meeting, please send me a note (caine@clemsun.edu). Lunch will be offered for those interested with the cost subsidized by the TG. Please look for an email RSVP in the near future.

2017 Aging TG Business Meeting

When: Wednesday, October 21, 12:00 - 1:30 pm

Cost: \$25 for full members, \$15 for student members

* Would you or your organization like to sponsor the Aging TG lunch? If so, please email me at caine@clemsun.edu.

I'd also like to encourage MS and PhD students to apply for the Aging TG Student Research Scholarship. The goal of this scholarship is to assist students in conducting aging related research. Applications are due on September 5th, 2017. Please see page 3 for more information.

Finally, a few dates and reminders:

- 2017 HFES Annual Meeting will be held October 9–13, 2017, at the JW Marriott in Austin, Texas.
- ATG lunch will be Wednesday, October 11th from 12pm – 1:30pm
- ATG officer elections
 - Nominations due August 16th, 2017
 - Vote by August 31st, 2017
- Aging TG Student Research Scholarship deadline: September 5th, 2017
- Arnold Small award deadline: May 1, 2018
 - To be considered for the Arnold Small award, students and advisors should send notification to the Aging TG Program Chair (Anne Adams, Program Chair for Philadelphia, PA) upon receipt of notification that student-led work has been accepted for presentation at the 2018 annual meeting.

I look forward to seeing you in Austin!

Best,

Kelly

Aging Technical Group: Featured Research Lab



University of
**Central
Florida**

Technology and Aging Lab

**Drs. Janan Smither and
Daniel McConnell**



Pictured above (left to right): Eva Parkhurst, Michael Rupp, Dr. Janan Smither, Dr. Stella Sung of UCF CREATE, Jessica Michaelis, and Fernando Montalvo.

The Technology and Aging Laboratory, at the University of Central Florida, seeks to improve life for older adults through a multifaceted approach that includes improving the interaction of older adults with technology, using technology to provide solutions to pressing mental and healthcare issues, and examining the effects of aging on various cognitive domains.

Our Ph.D. Students

Jessica R. Michaelis will propose her dissertation in Summer 2017 on the use of immersive virtual nature environments on cognitive restoration.

Fernando Montalvo successfully defended his Honors Thesis in Spring 2017 and will continue his work in TAL studying how social robotics can improve mental health issues in aging as a PhD student in the Fall.

Eva L. Parkhurst is completing her first year with the TAL lab. Her current research focuses include robotics and the development of new leisure activities for older adults.

Michael A. Rupp will be defending his Dissertation in Summer 2017. His research interests include understanding the sensory and cognitive demands of interacting with robots and investigating activities that may attenuate age-related declines in physical and cognitive health.



Current Projects

Design of Robotic Kits for Older Adults

We are conducting individual and group build sessions with older adults to identify the strengths and weaknesses of various market-available robotic kits. Findings will be used to design and 3D print novel kits tailored to older adults.

Examining the Role of Aging and Daily Activities on Kinematic Processing Efficiency

We are investigating how everyday activities (e.g. physical and mental fitness) may attenuate declines in cognitive and motor functioning that occur as people age. Results will inform interventions to support healthy aging and inform the design of touch screen technology for older adults.

Exploring Individual Attitudes towards Virtual Agents as Social Companions

Our lab is examining the level of social presence experienced by older adults using social virtual agents, as well as attitudes towards interacting with artificial social companions. Results will inform on attitudes among the aging population towards robotics, as well as improve the design of social robotics to cater to an aging population.



Left: Fernando with lab members, Victoria Pineda, & Melissa Dabydeen. Right: Robot building with Eva & Michael

Students: Submit Your Application for a ATG Scholarship

Did you know that the ATG has a scholarship to help students pay for research-related expenses?

The ATG's goal is to provide scholarships (up to \$500) to students to conduct their research (1-2 scholarships per year based on resources; open to MS or PhD level).

The requirements for consideration of the scholarship are:

- Students must be members of the ATG.
- Students must agree to submit their research to the HFES conference within two years of receiving the awards.
- Students must submit a 1-2 page description of their project and request for funds (see submission and procedure details below).

Submission

- Present a timeline for their research leading up to graduation.
- Provide a letter of support from faculty stating:
 - how the funding from the ATG is critical to the research,
 - what the student's academic/scholarship record is, and
 - an endorsement of the student's research plan.

Procedure

- Send your completed application to the ATG Technical Group Chair, Kelly Caine (caine@clemson.edu) by **Tuesday, September 5th, 2017**.
- A selection committee comprised of ATG members will review and score the submissions.
- The ATG Scholarship award will be presented at the ATG business meeting at the HFES annual conference. Please be sure to attend the Wednesday lunch!

ATG Officer Elections

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Open Positions:

- Secretary/Treasurer
- Program Chair Elect
- Newsletter Editor
- Webmaster/Blogger

Nominees (aside from the newsletter editor and webmaster) must be full members of HFES. A description of the duties follows on page 4. Please look for an email soliciting nominations soon.

Current Officers:

- Chair (Austin, TX): Kelly Caine
- Chair Elect (Philadelphia, PA): Marita O'Brien
- Program Chair (Austin, TX): Ranjana Mehta
- Program Chair Elect (Philadelphia, PA): Anne Adams
- Secretary/Treasurer (Austin, TX): Nicole Werner
- Newsletter Editor (Austin, TX): William Leidheiser
- Webmaster/Blogger (Austin, TX): Michael Geden

For reference, here is a list of officer positions and the responsibilities associated with those offices:

Chair (2-year term)

The TG chair has overall responsibility to ensure that the group meets its minimum requirements. The chair works with the HFES executive director in scheduling the TG's annual business meeting and arranging other events; with the newsletter editor regarding timing, content, distribution method, and cost of newsletters; and with other officers to ensure that TG activities are being carried out. The chair also represents the TG as a member of the Council of Technical Groups.

Chair-Elect (1-year term)

The chair-elect usually assists the current chair, though ultimate responsibility for the TG's operation lies with the current chair. The current chair-elect will move into the office of chair at the end of the chair's 2-year term.

Secretary-Treasurer (1-year term)

In some groups, these offices are separated: one person is secretary and another is treasurer. Although the secretary-treasurer may be responsible for the TG's finances, the Operating Rules stipulate that this is ultimately the chair's responsibility. There-fore, close coordination between these offices is essential. All financial records (checkbook, bank statements, etc.) for TGs are held in the HFES central office. Invoices should be sent to Lynn Strother at the central office for payment.

Program Chair (1-year term)

The program chair is responsible for over-seeing the technical review of proposals submitted for the HFES Annual Meeting. See Appendix E in the "Handbook for Program Chairs" for detailed guidelines. The Aging TG program chair is also responsible for coordinating the Arnold Small Award for outstanding student paper.

Program Chair-Elect (1-year term)

The program chair-elect may assist the program chair with the technical review of papers for the annual meeting. The program chair-elect will move into the position of program chair for the subsequent term.

Newsletter Editor (1-year term)

The newsletter editor is responsible for producing at least two newsletters per year and distributing them to TG members. The newsletter is the vital link between a TG's officers and its members, and its quality and frequency are often associated with members' level of satisfaction with their TG affiliation.

Web Master (1-year term)

The web master is responsible for maintaining current information on the Aging TG website.

New Aging Publications

- Grobe, S., Kakar, R. S., Smith, M. L., Mehta, R., Baghurst, T., & Boolani, A. (2017). Impact of cognitive fatigue on gait and sway among older adults: A literature review. *Preventive medicine reports*, 6, 88-93.
- Hamm, J., Money, A., & Atwal, A. (2017). Fall Prevention Self-Assessments Via Mobile 3D Visualization Technologies: Community Dwelling Older Adults' Perceptions of Opportunities and Challenges. *JMIR Human Factors*, 4(2), e15.
- Harte, R., Glynn, L., Rodríguez-Molinero, A., Baker, P. M., Scharf, T., Quinlan, L. R., & ÓLaighin, G. (2017). A human-centered design methodology to enhance the usability, human factors, and user experience of connected health systems: a three-phase methodology. *JMIR Human Factors*, 4(1).
- Lee, J., Mehler, B., Reimer, B., Ebe, K., & Coughlin, J. F. (2016). Relationships Between Older Drivers' Cognitive Abilities as Assessed on the MoCA and Glance Patterns During Visual-Manual Radio Tuning While Driving. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, gbw131.
- Mehta, R. K., & Rhee, J. (2017). Age-specific neural strategies to maintain motor performance after an acute social stress bout. *Experimental Brain Research*, 235(7), 1-9.
- Pak, R., Rovira, E., McLaughlin, A. C., & Baldwin, N. (2017). Does the domain of technology impact user trust? Investigating trust in automation across different consumer-oriented domains in young adults, military, and older adults. *Theoretical Issues in Ergonomics Science*, 18(3), 199-220.
- Payyanadan, R. P., Gibson, M., Chiou, E., Ghazizadeh, M., & Lee, J. D. (2017). Contextual Design for driving: Developing a trip-planning tool for older adults. *Transportation research part F: traffic psychology and behaviour*, 46, 462-476.
- Preusse, K. C., Mitzner, T. L., Fausset, C. B., & Rogers, W. A. (2017). Older adults' acceptance of activity trackers. *Journal of Applied Gerontology*, 36(2), 127-155.
- Rogers, W. A., & Mitzner, T. L. (2017). Envisioning the future for older adults: Autonomy, health, well-being, and social connectedness with technology support. *Futures*, 87, 133-139.
- Shortz, A. E., & Mehta, R. K. (2017). Cognitive challenges, aging, and neuromuscular fatigue. *Physiology & Behavior*, 170, 19-26.
- Zhang, S., Grenhart, W. C., McLaughlin, A. C., & Allaire, J. C. (2017). Predicting computer proficiency in older adults. *Computers in Human Behavior*, 67, 106-112.

Building Use & Safety Website

Aging TG members with interests on the topics such as slips, trips, and falls will find some useful information at the following website (www.bldguse.com).

The owner of the website, **Jake Pauls**, is a consultant and Certified Professional Ergonomist (CPE). In 2017, Jake celebrates 50 years of professional activity in building use and safety as part of over 53 years working on building and facility design, construction, use and safety issues that, increasingly, involves public health advocacy internationally as well as service to clients. His website offers a wealth of videos on stairway usability, bathroom usability, and built environment standards.



Scamming Crimes Targeting Older Adults

A new study published on the AARP website examined differences between fraud victims and the general population. The researchers take an in-depth look at the psychological and behavioral characteristics of victims.

The **full article** is available online: <http://www.aarp.org/research/topics/economics/info-2017/investment-fraud-survey.html>

Sign up for **fraud alerts** on the AARP website: <http://www.aarp.org/money/scams-fraud/>

Report scams to the **FBI Internet Crime Complaint Center**: <https://www.ic3.gov/default.aspx>

Relevant HFES Conference Sessions at a Glance

Tuesday, October 10

1:30 pm – 3:00 pm HC1 – Considering Patient Factors in Design

1:30 pm – 3:00 pm ST1 – Driver Perception, Response, & Performance

5:00 pm – 7:00 pm POS – Interactive Posters Session and Reception

Wednesday, October 11

9:15 am – 10:45 pm HC3 – Communication, Care Transitions, and Electronic Health Records

9:15 am – 10:45 pm A1 – Aging Session 1

12:00 pm – 1:30 pm ATG – Business Meeting

2:00 pm – 3:30 pm HC6 – Usability in Patient and Provider-Centered Design

Thursday, October 12

9:15 am – 10:45 pm VE2 – Trust, Engagement, and Presence in Virtual Environments

11:00 am – 12:30 pm A2 – Aging Session 2

11:00 am – 12:30 pm SF4 – Designing Systems for Caregivers, Patients, and Support Groups

Friday, October 13

9:15 am – 10:45 pm HC13 – Human Factors in Pharmacy

11:00 am – 12:30 pm HC15 – Vision, Attention, and Gesturing in Health-Care Design

Annual HFES Conference Preliminary Program Featuring ATG & Aging-Relevant Sessions

Tuesday, October 10th

1:30 pm – 3:00 pm

HC1: Considering Patient Factors in Design

- *"Age Differences in Responding to Graphically Conveyed Health Risk Information."* T. Malik, R. Azevedo, D. Morrow, M. Hasegawa-Johnson, T. Huang, W. Schuh, K. Gu, R. Garcia-Retamero.
- *"Capturing the Medication Management Work System of Older Adults Using a Digital Diary Method."* R. Mickelson, R. Holden.

ST1: Driver Perception, Response, & Performance

- *"Age Effects on Drivers' Physiological Response to Workload."* C. Rodriguez-Paras, S. Susindar, S. Lee, T. Ferris.

5:00 pm – 7:00 pm

POS: Interactive Posters Session and Reception

- *"Medication Management Apps: Usable by Older Adults?"* R. Stuck, A. Chong, T. Mitzner, W. Rogers.
- *"Formative Analysis of Aging in Place: Implications for the Design of Caregiver Robots."* K. Jones, B. Cherry, D. Harris, M. Sridharan.
- *"The Relationship Between Global and Information Processing Factors and Self-Perceived Risky Driving Among Older Adults."* C. Craig, S. Levulis.
- *"Age, Sex, and STEM Education Influence Spatial Processing Performance."* A. Neigel, S. Bailey, J. Szalma, V. Sims.

Wednesday, October 11th

9:15 am – 10:45 am

HC3: Communication, Care Transitions, and Electronic Health Records

- *"Process Variances in Older Adults' Care Transitions from Emergency Department to Home: Process Breakdown Versus Process Resiliency."* N. Douthcheva, M. Shah, A. Borkenhagen, M. Finta, J. Duckles, C. Sellers, S. Seshadri, D. Lampo, N. Werner.

Wednesday, October 11th (continued)

9:15 am – 10:45 am

A1: Aging Session 1

- *"Managing Heart Failure on the Go: Usability Issues with mHealth Apps for Older Adults."* S. Morey, L. Barg-Walkow, W. Rogers.
- *"User-Centered Evaluations with Older Adults: Testing the Usability of a Mobile Health System for Heart Failure Self-Management."* V. Cornet, C. Daley, P. Srinivas, R. Holden.
- *"Understanding the Medication Adherence Strategies of Older Adults with Hypertension."* K. Blocker, K. Insel, K. Koerner, W. Rogers.
- *"Telepresence Heuristic Evaluation for Adults Aging with Mobility Impairment."* X. Wu, R. Thomas, E. Drobina, T. Mitzner, J. Beer.
- *"A Taxonomy to Aid in the Design of Complex Physical Activities for Older Adults."* L. Koon, R. Brustad, M. Babkes Stellino.

12:00 pm – 1:30 pm

Aging TG Business Meeting (Lunch)

- Brief ATG status
- Arnold Small award
- ATG scholarship for students
- Social time

2:00 pm – 3:30 pm

HC6: Usability in Patient and Provider-Centered Design

- *"The Usability of Blood Glucose Meters: Task Performance Differences Between Younger and Older Age Groups."* J. Jones, J. Caird.
- *"Evaluating the Usability of Alternative Shoulder Stabilization Methods."* K. Cantin, S. Ulman, J. Park, S. Kim, M. Nussbaum.

Thursday, October 12th

9:15 am – 10:45 am

VE2: Trust, Engagement, and Presence in Virtual Environments

- *"Design Recommendations to Enhance Virtual Reality Presence for Older Adults."* S. McGlynn, W. Rogers.

Thursday, October 12th (continued)

11:00 am – 12:30 pm

A2: Aging Session 2

- *"Age Differences in Tornado Warnings and Emotions."* M. O'Brien, C. Peterson.
- *"Effect of Social Stress on Motor Function in Older Adults: an fNIRS Investigation."* J. Rhee, T. Dillard, M. Nzoiwu, R. Mehta.
- *"Developing a Quick-Start Guide to Aid Older Adults in Interacting with Gesture-Based Video Games."* C. Harrington, K. Hare, W. Rogers.
- *"Performance in Takeover and Characteristics of Non-Driving Related Tasks During Highly Automated Driving in Younger and Older Drivers."* H. Clark, J. Feng, A. McLaughlin, B. Williams.
- *"Three-Dimensional Multiple Object Tracking Speed Thresholds are Associated with Measures of Simulated Driving Performance in Older Drivers."* H. Woods-Fry, S. Deut, C. Collin, S. Gagnon, J. Faubert, M. Bedard, S. Marshall.

11:00 am – 12:30 pm

SF4: Designing Systems for Caregivers, Patients, and Support Groups

- *"Understanding Older Adults' Intentions to Use Healthcare Technologies: A Work in Progress."* M. Harris, K. Blocker, W. Rogers.

Friday, October 13th

9:15 am – 10:45 am

HC13: Human Factors in Pharmacy

- *"Human Factors in Pharmacy."* M. Chui, R. Holden, A. Russ, O. Abraham, P. Srinivas, J. Stone, M. Jahn, M. Ozkaynak.

11:00 am – 12:30 pm

HC15: Vision, Attention, and Gesturing in Health-Care Design

- *"Gait-Guided Adaptive Interfaces: Managing Cognitive Load in Older Users."* J. Blumenthal, T. Tong, M. Chignell.