

2021 Newsletter

BYU GERONTOLOGY

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[Student Club sign-up](#)



Director: Dr. Ray Merrill
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As the new director of the Gerontology Program, I look forward to working with the students and faculty at BYU who are interested in studying physical aspects of aging, along with mental, social, spiritual, and societal implications of older age. The physical aspects of aging involve the domains of seeing, hearing, mobility, communication, cognition, and self-care. When problems in these domains occur, the implications can be devastating for the individual, their family, and the community. Because the study of aging covers a broad spectrum of physical conditions and consequences, it is a multidisciplinary field of study that involves experts from several disciplines, including nursing, public health, epidemiology, business, speech and audiology, communications, the arts, sociology, and psychology.

After completing my graduate work in applied statistics and public health, I went on to work at the National Cancer Institute (NCI) as a Cancer Prevention Fellow. This gave me the opportunity to conduct research on one of the primary diseases of old age, cancer. My research focused on the analysis and modeling of trends in cancer incidence, mortality, and survival data; investigation of the impact of cancer treatment advances and increased utilization of screening tests on population disease statistics; methodologic investigations into new cancer measures, the relationships between incidence, mortality, and survival, and the impact of various biases on chronic disease statistics. As a faculty member in the Department of Public Health at BYU, my research continues in this area but also extends to other chronic diseases, some of which primarily affect people of old age.

From 2011 through 2018, I had the pleasure of serving on the BYU Gerontology Committee. This gave me the chance to work with Jeremy Yorgason (former director) and other outstanding faculty committed to the Gerontology Program. Initial and continued emphasis areas of the program are in teaching, scholarship, citizenship, and outreach. For example, approximately 70 faculty affiliates from across campus provide our students in the gerontology minor with excellent academic training and research opportunities. Funding opportunities for faculty and scholarships and service awards for students further promote teaching and research excellence in gerontology. Some highlights of our faculty and student gerontology research are available on the BYU gerontology website (gerontology.byu.edu/research). Through the BYU Gerontology Student Association and the university's affiliation with the Huntsman World Senior Games, valuable opportunities exist for student service and networking. In addition, the annual Russell B. Clark BYU Gerontology Conference is an important means for promoting faculty and student research to the community.

As the proportion of the total population consisting of older adults continues to grow, gerontology has become an increasingly important field of study. The multidisciplinary nature of gerontology means that students and faculty with diverse interests and training can contribute to this important area of study. In the coming years, the gerontology program is committed to continuing to build upon the rich heritage of the program's excellence in teaching, scholarship, citizenship, and outreach.



HIGHLIGHTS

- Ray Merrill became the new Director of the Gerontology Program on July 1, 2021.
- The Gerontology Student Association adapted to the restrictions caused by the COVID-19 pandemic by creating a Pen Pal Program to safely reach out to older adults.



GERONTOLOGY STATISTICS

Globally, the population ages 65 and older (% of total population) continues to rise. The following data show that this increase has continued over the years 1960 through 2020, according to sex and country income classification. As the share of the population that is older increases, it is evident that the need for gerontology is greater than ever before.

In the U.S., 13.0% in 2010 and 16.6% in 2020 (28.1% increase) of the total population was aged 65 years or older.¹ Functional limitation (difficulty in six domains of functioning: seeing, hearing, mobility, communication, cognition, and self-care) affects an increasingly large proportion of older adults. For example, in the U.S. in 2018 functional limitation resulting in some difficulty affected 45.4% of individuals ages 65 years or older. Functional limitation resulting in a lot of difficulty affected another 21.9% of individuals in this same age group. In contrast, for adults ages 18-64 years functional limitation resulted in some difficulty in 30.2% and a lot of difficulty in 7.2%.²

1. The World Bank. Population ages 65 and above (% of total population). Revised 2019. Available from: <https://data.worldbank.org/indicator/SP.POP.65UP.TO.ZS>.

2. National Center for Health Statistics. Health, United States, 2019. Hyattsville, MD. 2021. DOI: <https://dx.doi.org/10.15620/cdc:100685>.

Year			Male		Female	
	% 65+	% Increase	% 65+	% Increase	% 65+	% Increase
1960	5.0		4.2		5.7	
1970	5.3	6.7	4.5	5.0	6.2	8.0
1980	5.9	11.1	4.9	11.2	6.9	11.4
1990	6.2	4.6	5.2	5.2	7.1	4.0
2000	6.9	11.6	5.9	14.2	7.8	9.6
2010	7.6	10.1	6.6	11.8	8.5	8.8
2020	9.3	23.1	8.3	24.8	10.4	21.8

Source: Reference 1.

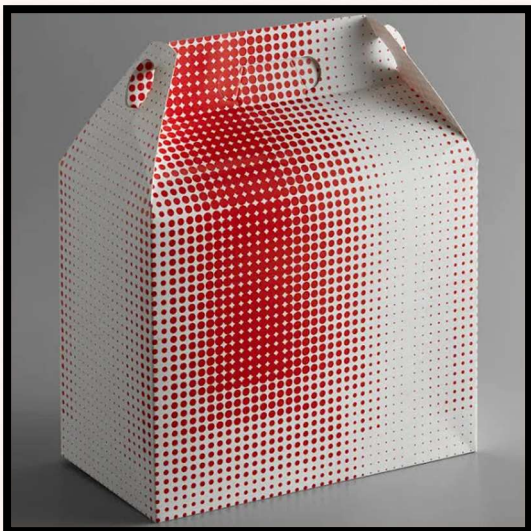
Year	High Income Countries		Middle Income Countries		Low Income Countries	
	% 65+	% Increase	% 65+	% Increase	% 65+	% Increase
2010	15.4		6.3		3.2	
2020	18.6	21.5	8.1	28.3	3.3	3.8

Source: Reference 1.

PROGRAM FACULTY

Faculty Affiliate Spotlight

Dr. Jared Nielsen is a neuroscientist in the Department of Psychology. Growing up, he thought about pursuing several different careers, including being a pilot, an astronomer, and a high school biology teacher. After returning home from serving a Latter-Day Saint mission in Italy, he enrolled at BYU. During his first semester, he had an important experience while he sat through a human development lecture. It was like a light turned on in his brain. He knew what he wanted to do with the rest of his life—learn how the brain works and what goes wrong in the brain when someone has a brain disorder. After that experience, he became a neuroscience major and began doing research on individuals with autism. Later, he went to graduate school at the University of Utah and then completed a postdoctoral fellowship at Harvard University. Finally, he returned to BYU in 2018 as an assistant professor. In his Brain & Behavior Lab, Jared and his research assistants are interested in answering questions about the organization of the brain and how neurological and psychiatric illnesses disrupt its organization. To answer these questions, they use a variety of analytical techniques to extract quantitative information from MRI scans. They currently have projects that investigate how the brain is affected in patients with autism, dementia, OCD, and mood and anxiety disorders. Their hope is that the knowledge they gain as scientists will inform and improve the way clinicians diagnose and treat their patients.



Faculty Affiliates Luncheon

The Annual Gerontology Faculty Affiliates Luncheon is held each January. All Faculty Affiliates are invited to attend a catered lunch and program presentation by the Program Director. Attendees enjoy meeting affiliates from different departments and colleges, learning more about the Gerontology Program, and hearing success stories of program alumni. They were able to connect virtually this year with others who are conducting gerontological research and teaching courses on aging.

GERONTOLOGY STUDENTS

Alumni Highlight

I'm Shellie Stufflebeam, and I earned a minor in gerontological studies. I finished BYU's nursing program in December of 2019. I currently work as a registered nurse in the intensive care unit in the Mountain View Hospital in Payson. My studies in gerontology have helped me greatly, as the majority of the patients I care for are over 60 years old. I also work with psychiatric patients of all ages at the Utah State Hospital. Studying the older population has helped me to better understand older peoples' perspectives and to be able to relate better to my patients in general. I love learning from the rich experiences and resiliency of the older adults I get to meet as a nurse.



Student Social

The Gerontology Program Student Social has been a wonderful tradition since 2019. This year's social had to be postponed, but we are really looking forward to getting together in 2022! Faculty and students mingle, network, and share their enthusiasm for the older adults they serve. Watch for information on the next get-together!

Scholarship and Award Recipients

2020 Service Award Recipients majored in Chinese, Epidemiology, Exercise & Wellness, Exercise Sciences, Nursing, and Physiology & Developmental Biology.

2021 Academic Scholarship Recipients majored in Biochemistry, Exercise Sciences, Exercise & Wellness, Human Development, Nursing, Physiology & Developmental Biology, Psychology, and Public Health.

2021 Best Poster Award for Gerontology at the Fulton Mentored Learning Conference went to Carver J Coleman from the Department of Economics.

2021 Graduate Student Fellowships went to nine students in the following fields: Biochemistry; Biology; Dietetics; Exercise Physiology; Marriage, Family, and Human Development; Neuroscience; Psychology, and Public Health.



FACULTY RESEARCH

Current Internally Funded Research Projects

Jeremy Yorgason and Corinna Tanner (Family Life, Nursing)

"Marital Quality as a Buffer to the Impact of Later Life Sensory Impairment on Social Isolation"

Mary Davis and Julianne Grose (Micro & Molecular Biology)

"Identification and Characterization of PAS Kinase Alleles Associated with Diabetes and Neurodegenerative Disease"

Perry Ridge (Biology)

"Solving the Genetic Architecture of Alzheimer's Disease: Mitochondrial Genomics"

Jared Nielsen and Craig Nuttall (Psychology, Neurology, Nursing)

"Comparison of Brain Plasticity in Younger and Older Adults During Limb Disuse"

Arminda Suli (Physiology & Developmental Biology)

"Discovering new proteins associated with ribbon synapses"

Amy Harris (History)

"Family Relationships and Old Age in Georgian England"

Keely Glenn and Kate Monson (Dance)

"Living Stages"

Recently Published by BYU Gerontology Faculty Affiliates

Melanie S Hill, **Alexander C Jensen**, Sarah M Coyne, **Jeremy B Yorgason**

[*Look Who's Talking: Mediums of Contact Among Mid-to Later-Life Siblings*](#)

Josue D. Gonzalez Murcia, Allen Weinert, Claudia M. Tellez Freitas, Daniel K. Arens, Meganne N. Ferrel, **Julianne H.**

Grose, Perry G. Ridge, Eric Wilson, **John S. K. Kauwe**, & **K. Scott Weber**

[*Atypical chemokine receptor ACKR2-V41A has decreased CCL2 binding, scavenging, and activation, supporting sustained inflammation and increased Alzheimer's disease risk*](#)

Adrienne D. Henderson , **A. Wayne Johnson** , Lindsey G. Rasmussen, Weston P. Peine, Sydney H. Symons, Kade A.

Scoresby, **Sarah T. Ridge** , and **Dustin A. Bruening**

[*Early-Stage Diabetic Neuropathy Reduces Foot Strength and Intrinsic but Not Extrinsic Foot Muscle Size*](#)

J A Pape, J H Grose

[*The effects of diet and sex in amyotrophic lateral sclerosis*](#)

Hiroko Kukihara, **Niwako Yamawaki**, Michiyo Ando, Midori Nishio, Kayoko Koga, Hiromi Kimura, Takuro Matsuda

[*Effects of Exercise and Mindfulness-Based Yoga Programs on Promotion of Resilience and Mental Health of Older Adults in Japan: A Randomized Controlled Trial*](#)

PROGRAM EVENTS

Russell B. Clark Gerontology Conference

This year's Gerontology Conference was held virtually. Our keynote speaker, Dr. Karen Fingerman of UT Austin, spoke on the topic of older adult relationships as they are influenced by TV watching in late life. Dr. Beth Fauth of USU taught principles of intervention for caregivers of dementia. Dr. Jeremy Yorgason, BYU, discussed the impact of health on later life couples.

Videos of these presentations are available on our website's [conference archives page](#).

The 31st Annual BYU Gerontology Conference will be held March 16-17, 2022. Updates will be posted to the website as they become available.



Huntsman World Senior Games

Student volunteers travel to the Huntsman World Senior Games each fall in St. George, Utah. They administer various health screenings to ensure the health and safety of all senior athletes. In October 2019, more than 60 BYU student volunteers ran screening tests such as visual acuity, glucose, carotid ultrasound, body composition, blood pressure, and balance. Many student volunteers are "so impressed with what they see at the games in terms of healthy, happy aging seniors, they become committed to some type of gerontological study and career path. For many students, there is a complete paradigm shift relative to what they once thought regarding getting older" (data and quote from Ron Hager, BYU Exercise Sciences). The Senior Games were canceled in 2020. We are very pleased to be able to send volunteers again this year!

Pictured above: student Brandon Sonnefeld with the Brazilian women's volleyball team in 2018

CALENDAR & COMMITTEE MEMBERS

DATES TO REMEMBER

[Huntsman World Senior Games](#): October 6-9 & 12-14, 2021

[Student Service Award](#) Applications due: October 29, 2021

[Faculty Research Grant Proposals](#) due: November 12, 2021

[Student Social](#): January 14, 2022

[Miami Internship Applications](#) due: January 17, 2022

Faculty Affiliates Luncheon: January 21, 2022

[Russell B. Clark Gerontology Conference](#): March 16-17, 2022

[Student Scholarship Applications](#) due: March 25, 2022

[Fulton Mentored Research Conference](#): April 7, 2022



[Ray Merrill, PhD](#)
Public Health
Director, Gerontology Program



[Ron Hager, PhD](#)
Exercise Sciences



[Sterling Sudweeks, PhD](#)
PDBio



[Corinna Tanner, PhD, MSN, RN](#)
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[Evan Thacker, PhD](#)
Public Health
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[Sam Tsugawa, DMA](#)
Music Education



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