

World Summit on

Future of Aging, Geriatrics, and Gerontology: Science, Society, and Sustainability

09-10 July 2025 | Prague, Czech Republic



Exhibitor

USC Leonard Davis
School of Gerontology

Hosted By:

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Exhibitor

USC Leonard Davis

School of Gerontology

USC Leonard Davis is the first and most comprehensive professional school of gerontology in the United States, with a long history of innovation in the field. Since 1975, students, faculty and colleagues from around the globe have come here to explore and shape the future of aging. Our alumni make scientific breakthroughs, advocate for those who often go unheard, and lead dynamic companies, among other exciting careers.

We offer the following program

- BS in Human Development and Aging
- BS in Lifespan Health
- Minor in Individuals, Societies, and Aging
- Minor in Science, Health, and Aging
- Minor in Geroscience
- MS in Gerontology
- MA in Gerontology
- MA in Aging Services Management
- MA in Long Term Care Administration
- MA in Senior Living Hospitality
- MA in Medical Gerontology
- MS in Applied Technology and Aging
- MS in Biology of Aging
- MS in Nutrition, Healthspan and Longevity
- MS in Lifespan, Nutrition, and Dietetics
- MS in Nutritional Science
- MA in Foodservice Management and Dietetics
- Graduate Certificate in Gerontology
- PhD in Gerontology
- PhD in Geroscience
- Doctorate of Longevity Arts and Sciences

At the USC Leonard Davis School of Gerontology, life is our work. As the world's first and most distinguished school devoted to the study of aging, we lead with innovation, research, and education to improve how people live and age—today and for generations to come. Our mission is to promote healthy aging across all communities and societies. Through cutting-edge research, pioneering academic programs, and impactful community engagement, we prepare the next generation of leaders to reimagine aging and make meaningful contributions to a better future for people of all ages. Our renowned faculty are global leaders in their fields, driving scientific breakthroughs that transform the lives of older adults. From genetic research and big data analytics that enhance the treatment and prevention of age-related diseases, to exploring digital technologies that support independence and well-being, we're committed to advancing knowledge that benefits society. Join us as we continue to push the boundaries of gerontology and champion innovations that support healthy, purposeful aging for all.

Contact us:

Leonard Davis School of Gerontology,
USA 3715 McClintock Avenue Los Angeles, CA 90089

<https://gero.usc.edu>

Scientific Program

Day 01 | July 09, 2025 | Prague, Czech Republic | Zurich Meeting Room

08:00-09:00 Registrations

09:00-09:20 Opening Ceremony

Keynote Forum

09:20-10:00 **Title: Greatly Increased Lifespan by tRNA Synthetase Inhibitors is linked to Enhanced Proteostasis**

Mark McCormick, University of New Mexico Health Sciences Center, USA

10:00-10:40 **Title: Improvement in cognitive impairment following the successful treatment of endogenous Cushing's syndrome**

Malgorzata M Brzowska, University of New South Wales, Sydney, Australia

Networking & Refreshments Break @ 10:40-11:00

11:00-11:40 **Title: Epigenetic and Chromatin Regulation of Aging in Mammalian Stem Cells**

Weiwei Dang, Baylor College of Medicine, USA

11:40-12:20 **Title: The 7 secrets of a long, healthy life**

Thomas Klaholz, The University of Bonn, Germany

12:20-13:00 **Title: Re-thinking ageing: Qualitative and quantitative inquiries into positive ageing**

Miriam Park, Nottingham Trent University, UK

Lunch and Networking Break @ 13:00-13:50

13:50-14:30 **Title: Islands of Longevity: Genetic & Lifestyle Insights from Okinawa & Hawai'i**

Donald Craig Willcox, Okinawa International University, Japan

Speaker Session:

Session Chair: Malgorzata M Brzowska, University of New South Wales, Sydney, Australia

14:30-15:00 **Title: Geriatric Innovations: From Research to Real-World Impact**

Waleed Algaradi, KSU, Saudi Arabia

15:00-15:30 **Title: Unveiling the genetic landscape of basal ganglia: implications for common brain disorders**

Shahram Bahrami, University of Oslo, Norway

15:30-16:00 **Title: LongevAi: Intelligent Platform for Personalized Geriatric Wellness and Community Experience**

Pablo Bastida, Amatista Life Sa De Cv, Mexico

Networking & Refreshments Break @ 16:00-16:10

16:10-16:30 **Title: Opportunities in Aging: Graduate Programs at USC Leonard Davis School of Gerontology**

Steven Stumph, USC Leonard Davis School of Gerontology, USA

16:30-17:00 **Title: Can We Chemically Reprogram Aging? Decoding the Biochemistry of Longevity**

HulyaOzudogru, Mersin University/ Epigenetic Coaching, Turkey

17:00-17:30 **Title: Potential serum biomarkers for early detection of diabetic nephropathy**

Tarek K Motawi, Cairo University, Egypt

Poster Presentation

EP001 **Title: Unveiling the genetic landscape of basal ganglia: implications for common brain disorders**

17:30-17:50 **Shahram Bahrami**, University of Oslo, Norway

Panel Discussions & B2B Meeting

Day 01 End | Closing Ceremony

Day 02 | July 10, 2025 | Virtual | GMT+2

Introduction

Keynote Forum

09:30-10:00 **Title: Nutrigenetic Analysis and Epigenetic Importance in Longevity Anti-Aging Processes . Change your life: Epigenetics of longevity**

Gulsen Meral, Epigenetic Coaching Founder, UK

10:00-10:30 **Title: Pain & Ageing: Where are we now and what needs to be done?**

Patricia Schofield, University of Plymouth, UK

Speaker Sessions

10:30-10:55 **Title: Demographic Dynamics of Aging and Economic Restructuring – Challenges and Opportunities**

Kalthoum Sfar, Saudi Electronic University, Saudi Arabia

10:55-11:20 **Title: Psychophysical Conditioning as a Key to Active Longevity: Taiji and Qigong in the System of Social Adaptation for Older Adults**

Trofimova Mariia, Saint- Petersburg University, Russia

Break @ 11:20-11:40

11:40-12:05 **Title: The potential role of cannabidiol in Alzheimer's disease and aging may provide new insights into human health and longevity**

Yanying Liu, Qingdao Huanghai University, China

12:05-12:20 **Title: Identification of the Shared Gene Signatures Between Alzheimer's Disease and Diabetes-Associated Cognitive Dysfunction by Bioinformatics Analysis Combined with Biological Experiment**

Yixin Chen, Fudan University, China

12:20-12:45 **Title: The Probiotic Skin Care and Anti-Aging Effects: Microbial Allies for Rejuvenation**

Fatemeh Safaie, Iranian Research Organization for Science and Technology, Iran

12:45-13:10 **Title: Associations of the Neutrophil-to-Lymphocyte Ratio(NLR), Triglyceride-Glucose Index (TyG), and TyG-Derived Indices with Vitality Decline in Older Adults in China: A Study within the Integrated Care for Older People (ICOPE) Framework**

Jiaxiu Zhao, Shanghai Medical College, Fudan University, China

Break @ 13:10-13:30

13:30-13:55 **Title: Examining the Relationship between Obesity and Income Distribution Using Body Mass Index (BMI) and Body Shape and Size Index (BSSI): A Case Study of Pakistan**

Waqas Ghulam Hussain, The Islamia University of Bahawalpur, Pakistan

13:55-14:20 **Title: Discovery and Characterization of Small Molecule Modulators of Striatal-Enriched Protein Tyrosine Phosphatase (STEP) for Alzheimer's Disease Therapeutics**

Jiaqian Wu, Sanford Burnham Prebys Medical Discovery, USA

14:20-14:45 **Title: Impact of Receptive Music on Mood in the Elderly**

Neha Varanasi, Berkeley Preparatory School, USA

14:45-15:10 **Title: Gut Microbiota Disparities between Active Crohn's Disease and Healthy Controls: A Global Systematic Review**

Geetika Malik Ahlawat, Chandigarh University, India

Keynote Forum

15:10-15:40 **Title: How Longevity is Culturally Learned and the Causes of Health Are Inherited: Lessons from Centenarians**

Mario Martinez, Biocognitive Science Institute, USA

15:40-16:10 **Title: A New Trend in the Field of Rejuvenation Could be a Cellular Autoclone**

Lev Salnikov, AntiCA Biomed San Diego, USA

Break @ 16:25-16:40

Poster Presentation

16:10-16:25 **Title: Differences of pattern of impairment: Decision-making capacity in people with Mild Cognitive Impairment and Alzheimer's Disease**

Natalie DeSouza, Universidade Federal do Rio de Janeiro, Brazil

16:25-16:40 **Title: Advancing Elderly Social Health in Iran: Policy Analysis and Recommendations (2000s–Present)**

Maryam koosha, Institute for humanities and cultural studies, Iran

Speaker Sessions

16:40-17:05 **Title: Pneumonia, Depression and Mortality May Increase Based on Feeding Route in Persons with Dysphagia**

Jennifer Hanners, Texas Tech University Health Sciences Center, United States

17:05-17:30 **Title: Review of Quality of Life for active treated patients and for palliative care treated patients with cancer**

Alexandru Calin Grigorescu, Hospital of Nephrology Bucuresti, Romania

Panel Discussions & B2B Meeting

Day 02 Virtual End | Closing Ceremony

Joint Event

World Summit on the Future of Aging, Geriatrics, and Gerontology: Science, Society, and Sustainability

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**KEYNOTE
SPEAKERS
Day 1**



World Summit on the Future of Aging, Geriatrics, and Gerontology: Science, Society, and Sustainability

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Mark A McCormick

University of New Mexico Health Sciences Center, USA

Biography

Mark McCormick is an Associate Professor with Tenure in the Department of Biochemistry and Molecular Biology in the School of Medicine at the University of New Mexico Health Sciences Center, as well as a Board Member of the American Aging Association and the Vice-Chair Elect of Biological Sciences for the Gerontological Society of America. He received a PhD in Biochemistry and Molecular Biology from the University of California, San Francisco, and a BS in Biology and BS in Mechanical Engineering from the University of Texas at Austin. The McCormick Lab studies the basic biology of aging, using multiple model systems to look for conserved biology that will help them understand and delay aging, and the onset of age-related diseases, in humans. They also increas-

ingly incorporate machine learning and related computational approaches into their ongoing work.

Greatly Increased Lifespan by tRNA Synthetase Inhibitors is Linked to Enhanced Proteostasis

Aging is a key driver of many important diseases in humans. Defects in proteostasis are linked to important neurodegenerative diseases of aging such as Huntington's, Parkinson's, and Alzheimer's diseases. We have identified multiple compounds that greatly increase longevity in the budding yeast *S. cerevisiae* and the nematode *C. elegans*, by inhibiting conserved tRNA synthetase enzymes. These compounds lead to accumulation of uncharged tRNA, leading via the conserved sensor kinase GCN2 to translational up-regulation of the transcription factor ATF4. Here we describe work showing that multiple tRNA synthetase inhibitors can greatly upregulate ATF4 in mammalian cells, at otherwise safe doses. We also present RNA-Seq analysis showing that changed transcripts related to the regulation of proteostasis are highly overrepresented in these treated cells, as well as in treated *S. cerevisiae*, in an ATF4-dependent manner, and show directly that these same compounds can greatly enhance proteostasis in mammalian cells via multiple mechanisms. Longlived mice have elevated ATF4 levels, suggesting the connection between ATF4 and longevity may be conserved in mammals. These findings of increased protein turnover and increased longevity by the same treatments suggest that tRNA synthetase inhibitors could potentially be used to treat or prevent multiple diseases of aging linked to defects in cellular proteostasis.

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Malgorzata Brzowska

University of New South Wales, Australia

Biography

Malgorzata Brzowska, MD, FRACP, PhD is a Senior Consultant Endocrinologist at Sutherland Hospital, NSW as well as a Senior Conjoint Lecturer at UNSW, Sydney and a Visiting Scientist at the Garvan Institute of Medical Research, Australia. She holds a PhD degree from UNSW, Sydney for her thesis which examined the impact of the NPY system and gut hormones on skeletal and metabolic health. This study was supported by the National Health and Medical Research Council (NHMRC) postgraduate scholarship. Her research interests include obesity, diabetes mellitus, bone disorders and neuroendocrinology. She is a principal author of several peer-reviewed and highly cited articles in the area of obesity and metabolic health.

Improvement in cognitive impairment following the successful treatment of endogenous Cushing's syndrome

Background: Endogenous Cushing's syndrome, a rare endocrine disorder, characterised by chronic cortisol hypersecretion, results in neuropsychiatric disturbances and in cognitive deficits, which are only partially reversible after the biochemical remission of the disease.

Case presentation: We report a case of a woman with a profound cognitive deficit and a gradual functional decline caused by Cushing's disease of at least 10 years duration. The neurosurgical resection of her 2 mm adrenocorticotrophic hormone (ACTH) secreting pituitary microadenoma resulted in a successful resolution of the patient's hypercortisolism and a significant recovery of her neurocognitive function. The patient's progress was evaluated using serial clinical observations, functional assessments, Mini-Mental Status exams and through the formal neuropsychological report. Furthermore, the patient's recovery of her neurocognitive function was reflected by a sustained improvement in the patient's specific structural brain abnormalities on radiological imaging.

Conclusions: This report illustrates the importance of early detection and treatment of Cushing's syndrome in order to prevent neurocognitive impairment and neuropsychiatric disorders which are associated with an endogenous cortisol hypersecretion. The long-term adverse effects of severe hypercortisolaemia on brain function and the pathophysiological mechanisms responsible for the structural and functional changes in brain anatomy due to glucocorticoid excess are reviewed.

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Weiwei Dang

Baylor College of Medicine, USA

Biography

Weiwei Dang, Ph.D., is an Associate Professor in the Department of Molecular and Human Genetics and the Huffington Center on Aging at Baylor College of Medicine. A CPRIT Scholar in Cancer Research, He earned his Ph.D. in Molecular Biology, Microbiology, and Biochemistry from Southern Illinois University School of Medicine. He completed his postdoctoral training under Dr. Shelley Berger at the Wistar Institute

and the Perelman School of Medicine at the University of Pennsylvania.

He has authored more than 40 peer-reviewed publications in high-impact journals and serves on the editorial boards of eLife, Aging Cell, Journal of Gerontology, Frontiers in Aging, and Life Medicine. Additionally, he is an elected board member and the Assistant Secretary of the American Aging Association (AGE).

Epigenetic and Chromatin Regulation of Aging in Mammalian Stem Cells

Functional decline and dysregulation of stem cells contribute to tissue and organismal aging. Significant changes in transcriptome during aging, from altered gene expression to aberrant transcription, have been observed in various tissues and cell types, even at the single-cell level. These changes are linked to decline in stem cell function and loss of stem cell identity. However, the molecular mechanisms that underlie these changes remain poorly understood. In this meeting, I will discuss profound chromatin changes we discovered during mammalian aging and describe how these chromatin changes drive transcriptomic changes observed in aged stem cells and tissues.

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Thomas Klaholz

The University of Bonn, Germany

Biography

Thomas Klaholz, born in 1964, studied Nutrition and Sports Science at the University of Bonn. After managing a health food store, he became self-employed as a management consultant in 1996. For many years, his focus has been on health prevention. His

areas of work include stress management and mental health in the workplace, as well as concepts for a long, healthy life and healthy aging. Since 2016, he has been developing interdisciplinary strategies and giving lectures on the topics of longevity and healthy aging, advising both individuals and organizations.

The 7 secrets of a long, healthy life

The dream of healthy aging remains out of reach for the vast majority of individuals. Statistically, only one in twelve people will be able to say at the age of 80: "I am healthy and feel vital." However, evidence suggests that with appropriate interventions and lifestyle choices, this outcome is within reach for many more. This presentation invites you to engage in a data-driven exploration of the determinants of longevity and vitality. We will examine current scientific insights into the biology of aging and explore seven key evidence-based strategies for promoting healthy aging. In conclusion, we will consider a potentially foundational yet often overlooked factor – the so-called 8th secret to healthspan optimization.

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Miriam Park

Nottingham Trent University, United Kingdom

Biography

Miriam Sang-Ah Park is social and cross-cultural psychologist with strong interest in how culture, society and community shapes individual belief, attitudes and well-being. Her research focus on sociopolitical changes and its psychological impacts across different cultural context, including emerging country like

South Korea and ex-communist countries such as Hungary. Her PhD explore the intersection of family centeredness and democratisation across culture. Currently based on Malaysia, She is engaging in research on interethnic relations, cultural identities, family values, and subjective well-being in Southeast Asia and other cultures.

Re-thinking ageing: Qualitative and quantitative inquiries into positive ageing

While ageing literature tends to focus on the problematic aspects of ageing, there is a growing need to also consider the everyday, subjective experience of ageing and ways to improve well-being and quality of life in old age. Positive ageing is a perspective we adopt to look at this experience more carefully, and to understand what it means to age well for those in this age group. I will present the results from our qualitative and quantitative studies which shed a light on the meaning and experience of positive ageing for older adults in the UK and the potential implications for the ageing population worldwide.

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Donald Craig Willcox

Okinawa International University, Japan

Biography

Donald Craig Willcox, PhD, MHSc, FGSA, has dedicated over two decades to researching the genetic and lifestyle factors that contribute to healthy aging and longevity. He currently serves as Co-Principal Investigator of the Okinawa Centenarian Study and Head of the Okinawa Research Center for Longevity Science R&D. He is also a co-investigator and consultant for multiple NIH-funded studies, including the Kuakini Hawaii LIFESPAN and HEALTHSPAN Studies, which are part of the long-running Kuakini Honolulu Heart Program.

He is Fluent in Japanese and brings extensive expertise in bio-cultural approaches to aging, with a multidisciplinary background spanning anthropology, epidemiology, nutrition, and human genetics. He has successfully led cross-national research collaborations supported by the National Institute on Aging, the Japan Society for the Promotion of Science, and other major funding agencies.

His Okinawa team was the first to identify human longevity-associated gene variants (Lancet, 1987), and his Hawaii team discovered that the FOXO3 gene significantly influences human lifespan (PNAS, 2008). With over 40 years of collective experience in geriatrics and gerontology in Okinawa and more than 50 years of genetic epidemiology research in Hawaii, he continues to be a leading voice in the science of aging.

Islands of Longevity: Genetic & Lifestyle Insights from Okinawa & Hawai'i

Okinawa and Hawai'i—two Pacific islands connected by a long history of migration and cultural exchange—have also emerged as scientific partners in the study of exceptional longevity. Okinawa is internationally recognized as the first identified Blue Zone, a region characterized by high numbers of centenarians and low prevalence of age-related diseases. In Hawai'i, the Kuakini Honolulu Heart Program (HHP) has followed a cohort of Japanese-American men for over 50 years, producing one of the world's most comprehensive datasets on aging. Together, these "islands of longevity" offer a rare opportunity to examine aging through the lens of both lifestyle and genetics. A central focus of this research is the FOXO3 gene, one of the most robustly validated human longevity genes. FOXO3 plays a key role in cellular stress response, inflammation regulation, and mitochondrial health. A specific FOXO3 variant has been associated with reduced telomere shortening, increased resilience to cardiometabolic disease, and extended lifespan. The Okinawan population's exceptional healthspan is shaped not only by genetics but also by lifestyle factors, particularly diet. The traditional Okinawan diet is low in calories yet dense in nutrients and antioxidants, emphasizing vegetables, legumes, and marine-based foods. A culturally ingrained practice known as *hara hachi bu*—which encourages eating until only 80% full—functions as a natural form of caloric restriction, a dietary pattern shown to reduce oxidative stress, suppress inflammaging, and enhance metabolic efficiency. Our recent findings also highlight the potential of astaxanthin, a marine-derived antioxidant found in microalgae and seafood, as a dietary activator of FOXO3. Experimental data suggest that astaxanthin promotes FOXO3 expression and nuclear translocation, offering a promising nutrigenomic approach to modulate aging pathways. This presentation will summarize key discoveries from ongoing Okinawa–Hawai'i collaborations and preview future directions focused on mitochondrial function, inflammaging, and integrative strategies to promote healthy lifespan across diverse populations.

Joint Event

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SPEAKERS
Day 1

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Waleed Algaradi

KSU, Saudi Arabia

Biography

Waleed Ahmed Al-Garadi is a distinguished academic and administrative professional with a Ph.D. in Administration. Born in Medina, Saudi Arabia, He is currently affiliated with King Saud University in Riyadh, where he brings a wealth of experience in scientific review, office management, human resources operations, and financial report analysis. Fluent in both Arabic and English, He has actively contributed to academia and industry through participation in national and international conferences, including the Geographical Information Systems Conference and the Conference on Water Resources and the Dry Environment. He has also been involved in a number of strategic and quality-focused workshops, such as Total Quality Management and Academic Accreditation, and the National Beekeeping Strategy Review.

His academic contributions include peer-reviewed publications in international journals. The Impact of Operational Excellence and Innovation on Green Manufacturing in Southwest Asia: The Republic of Yemen as a Model (IJSRA, 2023). Modern Planning Strategy and a Course in Achieving the Competitive Advantage in the Mixed Sector Institutions in the Republic of Yemen (IJSRA, 2023). His diverse skillset is reinforced by extensive training in strategic planning, ISO 9001 documentation, administrative procedures, accounting awareness, and computer proficiency. He has also undertaken specialized training in office

management and holds a Diploma in Secretarial Studies. Beyond academia, he has actively participated in national initiatives such as the National Plan Support Services, iThenticate research originality training, and has served in various organizational roles including as a Program Lead. Dr. Al-Garadi also contributes to community outreach, having taken part in health volunteering programs and cultural events such as the 6th and 7th Honey and Beekeepers Festivals. With a passion for operational excellence, research integrity, and strategic development, He continues to be a valuable contributor to the academic and administrative advancement of his institution and region.

Geriatric Innovations: From Research to Real-World Impact

Introduction: Aging is an inevitable process that brings unique challenges and opportunities. With the rapid advancements in science and technology, we are witnessing groundbreaking innovations in geriatric care. These innovations, driven by rigorous research, are transforming the lives of older adults, enhancing their quality of life, and promoting healthy aging.

Bridging the Gap Between Research and Real-World Impact Despite significant research in geriatrics, the challenge lies in translating these findings into real-world applications. Many promising discoveries remain within academic circles, failing to reach those who need them most. Bridging this gap requires collaboration between researchers, healthcare providers, policymakers, and technology developers.

Key Innovations in Geriatric Care

1. Telemedicine and Remote Monitoring

- Virtual consultations have made healthcare more accessible for older adults, reducing the need for hospital visits.
- Wearable health devices monitor vital signs in real time, allowing early detection of health issues.

2. Artificial Intelligence (AI) in Geriatrics

- AI-powered tools help diagnose age-related diseases like dementia with greater accuracy.

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- Predictive analytics assist doctors in developing personalized treatment plans.

3. Assistive Robotics and Smart Homes

- Robotic caregivers provide support for daily activities, improving independence among seniors.
- Smart home technology, including fall detection systems and voice-activated assistants, enhances safety and convenience.

4. Pharmaceutical and Biotechnological Advances

- Anti-aging research explores ways to slow down cellular aging and enhance longevity.
- Precision medicine tailors treatments to the specific genetic and health profiles of elderly patients.

5. Social and Psychological Innovations

- Virtual reality (VR) therapy is being used to combat loneliness and improve cognitive function.
- Community-based programs focus on active aging, promoting social engagement and mental well-being.

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Shahram Bahrami

University of Oslo, Norway

Biography

Shahram Bahrami is a researcher in statistical genetics and neuroinformatics at the University of Oslo and NSG. His work focuses on integrating genomic and brain imaging data to understand the biological basis of neuropsychiatric and neurodegenerative diseases. He has extensive experience in multivariate GWAS, polygenic risk scoring, and cross-phenotype genetic correlation analyses. His recent research explores the genetic architecture of brain structures as potential biomarkers of aging and disease. He leads projects funded by the Research Council of Norway, focusing on precision medicine and brain health in aging populations.

Unveiling the genetic landscape of basal ganglia: implications for common brain disorders

Age-related changes in brain structure are central to

understanding cognitive decline and neurodegenerative risk. The basal ganglia, a key subcortical network implicated in motor and cognitive functions, undergo significant structural changes across the lifespan and are affected in both psychiatric and neurological disorders. In this study, we conducted a multivariate genome-wide association study (GWAS) of basal ganglia volumes using imaging and genetic data from 34,794 Europeans, with replication in 4,808 white and generalization in 5,220 non-white Europeans. Our multivariate GWAS identified 72 genetic loci associated with basal ganglia volumes, with a replication rate of 55.6% ($P < 0.05$) and 87.5% showing the same direction, revealing a distributed genetic architecture across basal ganglia structures.

To assess relevance for brain aging and pathology, we evaluated genetic correlations and pleiotropy between basal ganglia volume and eight brain-related disorders, including four neuropsychiatric (ADHD, ASD, BIP, SCZ) and four neurological conditions (MDD, MIG, ALZ, PD). We identified 3 loci significantly overlapping with ADHD, 2 with ASD, 20 with BIP, 83 with SCZ, 15 with MDD, 33 with MIG, 21 with ALZ, and 28 with PD. These findings highlight a substantial shared genetic architecture between basal ganglia structure and disorders that span neurodevelopmental to neurodegenerative pathways. These results underscore the utility of multivariate approaches for detecting brain-based biomarkers of aging and support basal ganglia morphology as a target for early identification of at-risk individuals. Our findings provide novel insights into the biological mechanisms linking subcortical brain aging and disease vulnerability.

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Pablo Alberto Bastida Gasca

Amatista Life, San Luis Potosi, Mexico

Biography

Pablo Alberto Bastida Gasca is a business strategist and innovation leader in the fields of health and gerontological wellness, with over 14 years of experience in project management, strategic planning, and organizational development across industries including healthcare, wellness, logistics, and technology. He is the founder and CEO of Amatista Life, a pioneering residential and community model in Mexico dedicated to promoting longevity and holistic well-being for older adults. Under his leadership, the company has advanced operational expansion and digital transformation, with a strong focus on social impact, efficiency, and user experience. He also serves as Chief Commercial Officer (CCO) and Co Founder at Gaman. AI, a technology company specializing in artificial intelligence solutions for business process automation. At the intersection of health and technology, he developed LongevAi, an intelligent platform designed to personalize, automate, and monitor comprehensive elder care. The platform integrates predictive analytics, clinical traceability, and real-time interdisciplinary coordination. He holds a degree in International Trade from Universidad del Valle de Mexico (UVM) and has held leadership positions at global companies such as Valeo and Bosch, where he developed a strong foundation in strategic operations and organizational leadership. Building on this corporate experience, He transitioned to entrepreneurship, where he now applies his expertise to creating innovative solutions

that address the pressing global challenges of aging populations.

LongevAi: Intelligent Platform for Personalized Geriatric Wellness and Community Experience

LongevAi is an advanced intelligent platform developed by Amatista Life to personalize, automate, and monitor holistic care for older adults within full-life residential communities. Its core mission is to elevate the resident experience and optimize operational performance through a modular system that seamlessly integrates artificial intelligence, predictive health analytics, clinical traceability, and real-time quality assurance.

The platform manages the complete care continuum—from initial onboarding, laboratory diagnostics, and comprehensive geriatric evaluations, to the structured execution of multidisciplinary care plans. These include individualized support in nutrition, physical therapy, psychology, family medicine, and community-based wellness programming. Powered by AI, LongevAi generates personalized daily routines, therapeutic schedules, meal planning, and tailored service recommendations. Families are kept closely informed via automated updates, emotional wellness tracking, and a dedicated communication interface.

Beyond residential care, LongevAi extends to non-residential users through offerings such as Day Club, Daypass, and Weekend/Week Experiences, enabling flexible access to on-demand health and wellness services.

Designed with a human-centered approach, the platform fosters seamless collaboration among healthcare professionals, caregivers, and administrative teams. Early implementation results indicate enhanced adherence to therapeutic plans, reduction in operational inefficiencies, and a significant strengthening of emotional bonds between residents, their families, and the care team.

LongevAi presents a scalable, replicable model for intelligent eldercare in Latin America and beyond—merging clinical rigor with empathetic, experience-driven technology that redefines aging with purpose and innovation.

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Hulya Ozudogru

Mersin University/ Epigenetic Coaching, Turkey

Biography

Hulya Ozudogru graduated from Hacettepe University, Faculty of Science, Department of Biology in 2004. After graduation, she worked in the genetic laboratory until 2006. Then she worked as an embryologist in Adana, IVF centre for 5 years. Later, with the IVF experiences, she pursued a master's degree at Mersin University's Faculty of Medicine, Department of Histology and Embryology, in 2011. Before graduating, she worked as a volunteer lecturer at Sahlgrenska University Hospital IVF Clinic in Gothenburg, Sweden. She started to work as a biologist at Mersin University Hospital in 2015. During the pandemic, Hulya worked as a responsible biologist in the COVID-19 laboratory, conducting PCR studies. After the laboratory experiences she was appointed as a lecturer at Mersin University Vocational School of Health Services in 2022. In 2024, she started her PhD programme at Mersin University, Faculty of Pharmacy, Department of Biochemistry and continues her academic career. During this process, she has started epigenetic coaching trainings that certified CPD Program from Dr. Gulsen Meral who is the founder of the Nutrigenetics and Epigenetics Association. Hulya continues to improve herself in the fields of Epigenetics, Nutrigenetics and Biochemistry. She still teaches her students actively in the fields of histology and biochemistry.

Can We Chemically Reprogram Aging? Decoding the

Biochemistry of Longevity

Aging is a complex biological process driven by molecular damage accumulation, metabolic dysregulation, and cellular senescence. The understanding longevity has been one of the most necessary research fields in the current century. Longevity, investigates how healthy aging can be achieved, including individuals who are genetically at higher risk for certain diseases, while also focusing on efforts to reverse the detrimental effects of aging and extend lifespan. Knowing the role of genetic, epigenetic, molecular and environmental regulatory factors in understanding different theories of aging and mechanisms of aging can contribute to the development of appropriate diagnosis, treatment and preventive. Epigenetic mechanisms manipulate various biological and psychological processes through regulations of relevant gene expressions. One of the most conserved signs of aging is epigenetic changes, such as DNA methylation, histone modifications, chromatin remodeling, noncoding RNAs, and extracellular RNAs. Numerous biological processes and markers are important in the development of aging, but epigenomic changes are particularly notable due to their significance in gene regulation and cellular identity.

Inside the cell nucleus, DNA is wrapped around histone proteins and exists in a compact, packaged structure. Throughout human development, exposure to various environmental factors such as stress, toxins, and nutrition, dynamically influences the number and structure of histones. This is where other biochemical processes come into play. One such process is the acetylation of histones, which causes the packaged structure to loosen, leading to increased expression of the genes in that region. In other words, the structural or functional protein, hormone, or enzyme encoded by the gene is synthesized in greater amounts.

Conversely, the removal of acetyl groups from histone tails—a process known as deacetylation—results in reduced gene expression. In this case, the necessary structural or functional protein, hormone, or enzyme may be synthesized in lesser amounts. This is often referred to as gene silencing. There are many chem-

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icals that can be added to or removed from histone proteins, such as phosphorylation, methylation, ubiquitination, and various others, all of which can cause histone modification. Histone modifications represent a dynamic and complex strategy for either reducing or increasing gene expression.

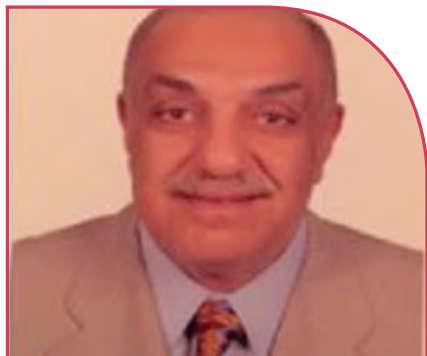
The second epigenetic process of critical importance during human life is DNA methylation. The addition of a methyl chemical group to cytosines within the DNA sequence represents a more stable and permanent epigenetic modification. When cytosines are methylated, DNA generally becomes less accessible. DNA methylation can be considered a process that leads to gene silencing. The diversity of cell types in our body is produced through this epigenetic process, which

enables the formation of differentiated neurons, blood cells, or muscle cells, for example, that are genetically identical but significantly differ in their epigenetic profiles. Thus, the epigenetic character of a cell determines its gene expression pattern, thereby defining the cell's phenotype, and its characteristics.

This presentation explores the feasibility of “chemically reprogramming” aging through small molecules, senolytics, and metabolic modulators. It evaluates current breakthroughs (e.g., mTOR inhibitors, sirtuin activators, AMPK stimulators) and their potential to extend healthspan. Also this study will attempt to demonstrate the biochemical effects of histone modifications and DNA methylation on epigenetic changes that have an impact on longevity.

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Tarek K Motawi

Cairo University, Egypt

Biography

Tarek Mohamed Kamal Mohamed Metawie is a Professor of Biochemistry, Faculty of Pharmacy, Cairo University. He has completed Ph.D. in Pharmaceutical Sciences, 1984; M.Sc. in Pharmaceutical Sciences, 1979; B.Sc. in Pharmaceutical Sciences, Faculty of Pharmacy, Cairo University, 1976.

Potential serum biomarkers for early detection of diabetic nephropathy

Aim: Diabetic nephropathy (DN) is considered as one of the diabetic complications affecting up to 40% of patients with type 1 or type 2 diabetes. In clinical practice, the frequently used markers of renal disease and

progression are serum creatinine, estimated glomerular filtration rate (eGFR) and albuminuria. The aim of this study is to determine new biomarkers in human serum which are promising for early detection of DN.

Methods: This study included 50 patients with type 2 diabetes mellitus (T2DM) and 25 clinically healthy individuals. The patients were divided into two groups; group I included 25 T2DM patients with normoalbuminuria, and group II consisted of 25 T2DM patients with microalbuminuria.

In all groups, neutrophil gelatinase-associated lipocalin (NGAL), b-trace protein (bTP) and microRNA-130b (miR-130b) were estimated.

Results: The serum levels of NGAL and bTP were significantly elevated in T2DM patients with microalbuminuria (group II) compared with T2DM patients with normoalbuminuria (group I) and control subjects but there was no significant difference between group I and control subjects. Serum miR-130b level was significantly decreased in patients with T2DM (groups I and II) compared with healthy control subjects, with a higher decrease in their levels in group II compared with group I.

Conclusion: Our results suggest that serum NGAL and bTP as tubular and glomerular markers respectively, together with serum miR-130b may be independent and reliable biomarkers for early detection of DN in patients with T2DM

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**Poster
Day 1**

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Shahram Bahrami

University of Oslo, Norway

Biography

Shahram Bahrami is a researcher in statistical genetics and neuroinformatics at the University of Oslo and NSG. His work focuses on integrating genomic and brain imaging data to understand the biological basis of neuropsychiatric and neurodegenerative diseases. He has extensive experience in multivariate GWAS, polygenic risk scoring, and cross-phenotype genetic correlation analyses. His recent research explores the genetic architecture of brain structures as potential biomarkers of aging and disease. He leads projects funded by the Research Council of Norway, focusing on precision medicine and brain health in aging populations.

Unveiling the genetic landscape of basal ganglia: implications for common brain disorders

Age-related changes in brain structure are central to

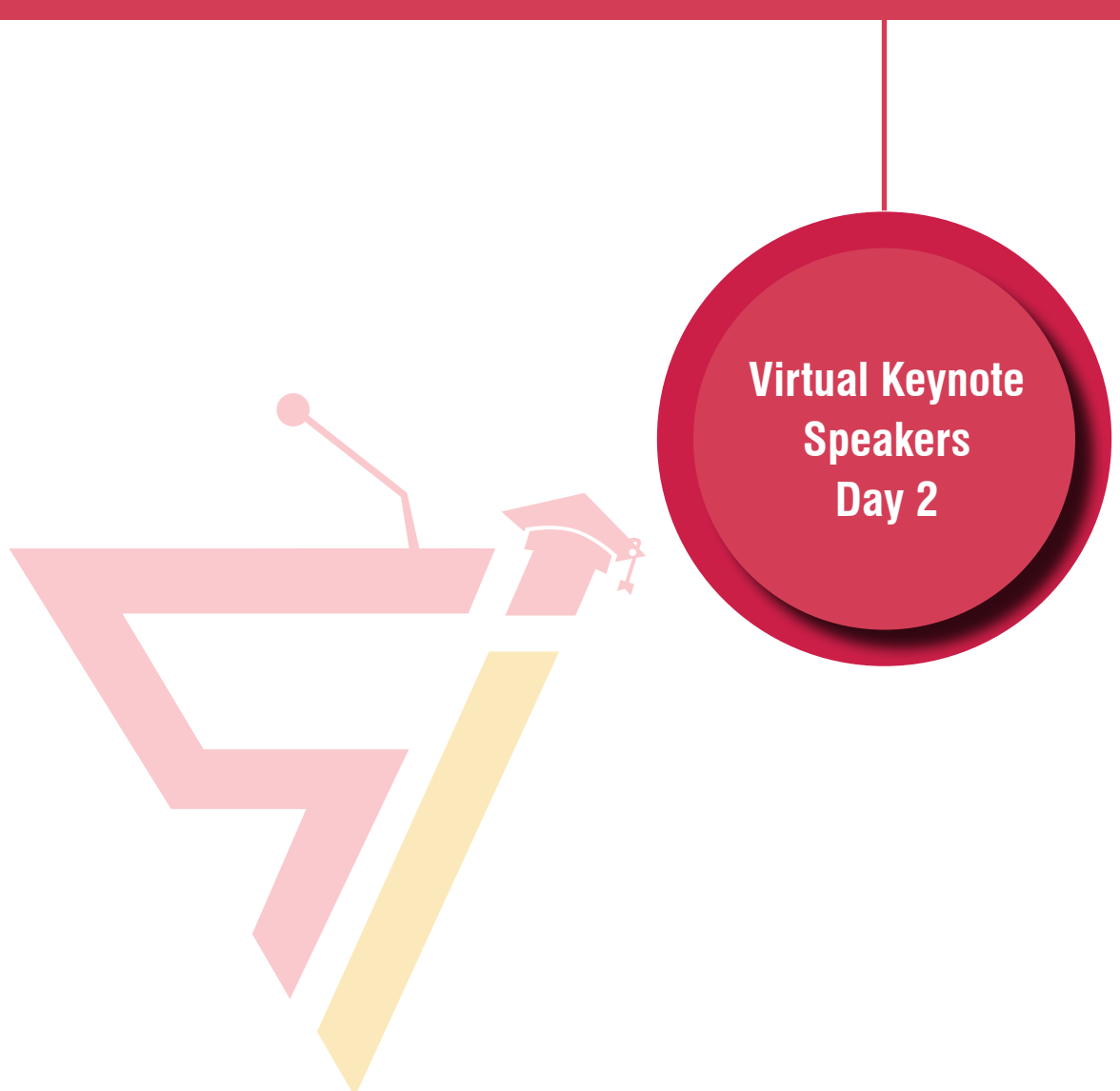
understanding cognitive decline and neurodegenerative risk. The basal ganglia, a key subcortical network implicated in motor and cognitive functions, undergo significant structural changes across the lifespan and are affected in both psychiatric and neurological disorders. In this study, we conducted a multivariate genome-wide association study (GWAS) of basal ganglia volumes using imaging and genetic data from 34,794 Europeans, with replication in 4,808 white and generalization in 5,220 non-white Europeans. Our multivariate GWAS identified 72 genetic loci associated with basal ganglia volumes, with a replication rate of 55.6% ($P < 0.05$) and 87.5% showing the same direction, revealing a distributed genetic architecture across basal ganglia structures.

To assess relevance for brain aging and pathology, we evaluated genetic correlations and pleiotropy between basal ganglia volume and eight brain-related disorders, including four neuropsychiatric (ADHD, ASD, BIP, SCZ) and four neurological conditions (MDD, MIG, ALZ, PD). We identified 3 loci significantly overlapping with ADHD, 2 with ASD, 20 with BIP, 83 with SCZ, 15 with MDD, 33 with MIG, 21 with ALZ, and 28 with PD. These findings highlight a substantial shared genetic architecture between basal ganglia structure and disorders that span neurodevelopmental to neurodegenerative pathways. These results underscore the utility of multivariate approaches for detecting brain-based biomarkers of aging and support basal ganglia morphology as a target for early identification of at-risk individuals. Our findings provide novel insights into the biological mechanisms linking subcortical brain aging and disease vulnerability.

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Gulsen Meral

Epigenetic Coaching Founder, UK

Biography

Gulsen Meral graduated from Istanbul University Cerrahpasa School of Medicine in 1994. She became a specialist in paediatrics in 2001. She is Associate Professor in Pediatrics and worked as a specialist as well as deputy chief physician and chief physician at several hospitals. She was the Rector's advisor between 2019-2021 at the Northern Cyprus ITU. She is also an Acupuncture instructor. She worked as a Nutrigenetics graduate course and lecturer and gave undergraduate and graduate courses on child development. She has many national and international publications, and worked on editorial boards and as reviewers. She has a Master's Degree in Hospital Management. She has a Turkish language literature undergraduate education. She completed PhD program in Medical Genetics. In addition to her scientific achievements, she is ambitious about poetry and has 5 poetry books. She is the Founder of the Nutrigenetics and Epigenetics Association, and has memberships in the Green Crescent and Rumelia Association, Istanbul Acupuncture Association, and International Society of Nutrigenetics & Nutrigenomics. She participated in the first and second International Epigenetic Congress as the president. She is still the organizer and educator of the Epigenetic Coaching Program. She is actively giving trainings on Nutrigenetic & Epigenetic Counselling to health professionals from all over the World as a certified CPD program. She continues research and training as the founder and manager of Epigenetic Coaching.

Nutrigenetic Analysis and Epigenetic Importance in Longevity Anti-Aging Processes. Change your life: Epigenetics of longevity

As the global population ages, understanding the biological mechanisms of longevity and healthy aging has become increasingly important. Aging is a systemic process that affects all biological systems and is characterized by an increased incidence of age-related degenerative diseases. DNA methylation plays a significant role in the aging process, with changes in methylation levels associated with age-related diseases. One-carbon metabolism, which includes folate and vitamin B12, supports DNA methylation, and high homocysteine levels are linked to age-related diseases.

The epigenetic clock uses DNA methylation patterns to estimate biological age and monitor the aging process. A healthy lifestyle helps align biological and chronological ages, but environmental factors can disrupt this balance. Regular monitoring of the epigenetic clock allows for the assessment of the effectiveness of dietary and lifestyle interventions. Nutrigenetic analysis has emerged as a valuable tool in examining the interaction between nutrition and genetics. Genetic factors can influence the absorption, metabolism, and utilization of various nutrients. Nutrigenetic analysis helps personalize dietary recommendations based on genetic profiles and reduce the risk of deficiencies.

Anti-aging encompasses a range of interventions aimed at slowing down or reversing the effects of aging. These strategies typically involve genetic, biochemical, and lifestyle changes. Combining nutrigenetic analysis with epigenetic clock data offers a comprehensive approach to supporting healthy aging and longevity. The findings highlight how crucial data-driven approaches are mitigating the financial effects of aging populations, especially with technological innovation, and the necessity of integrated solutions across healthcare, housing, labor markets, and technology, the study emphasizes the crucial role of technology industry in reducing obstacles and creating chances for economic growth.

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Patricia Schofield

University of Plymouth, United Kingdom

Biography

Patricia Schofield general nurse. she is recognised in the field of Pain and Ageing and was invited to co-chair the Global year against pain in the vulnerable population and chaired the European Year against pain in the vulnerable population. she had recently been awarded a distinguished award for her contribution to the field of pain and ageing by the International Association for the Study of Pain (IASP). she has been involved in work around pain and dementia which includes dental pain and pain assessment. Studies include a COST collaboration with 27 EU countries which involved the development of a pain assessment tool specifically for adults with dementia. A four-year MRC funded programme which examined the self-management of chronic pain amongst the older resulted in the development of self-management tools and a "how to find self-help support" booklet. On completion of this programme of work she received funding from SBRI to explore the feasibility of using the self-help information incorporated within Chatbot technology. A collaboration with a number of SMEs. she is also working on dental pain in dementia and virtual reality for the management of pain in older adults along with a deprescribing study and the use of body-reprogramming with patients with fibromyalgia.

Pain & Ageing: Where are we now and what needs to be done?

Aim: To give an overview of the current research and education in terms of pain and ageing in the UK and beyond.

Objectives:

- To discuss the prevalence of pain in the ageing population and the impact of factors such as gender, culture and sociodemographic influences.
- To identify and discuss factors that prohibit identification, assessment and management of pain in the older population.
- To identify key areas of pain in older adults that have been investigated and highlight where there are gaps for future research.
- To demonstrate what needs to be done in the future as the ageing population demographic changes.

It has been a number of years since Gibson highlighted the need to "grasp the nettle" and improve the assessment and management of pain in the older population. Yet there are still many areas where pain remains poorly managed. Nevertheless, we are facing an "ageing timebomb" where number of older adults will exceed their younger counterparts significantly, so we will need to consider innovative and creative ways to manage care and pain in the future. Coupled with the fact that the older population is not a homogenous group and so a "one size fits all" approach is unacceptable. There have been a number of national guidelines developed around the world and in spite of this we see specific pain problems such as dental pain poorly identified and managed and other issues such as overprescribing a constant feature in the care of older adults. This presentation will consolidate the literature and research to date and make recommendations for the future.

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Mario Martinez

Biocognitive Science Institute, USA

Biography

Mario E Martinez is a clinical neuropsychologist. In 1998 he developed his theory of Biocognitive Science based on research that demonstrates how thoughts and their biological expression coemerge within a cultural history.

How Longevity is Culturally Learned and the Causes of Health Are Inherited: Lessons from Centenarians

From our molecules to our cognitions the cultural interpretations we make of our world affect our biology. Unwittingly, longevity science studies diets, supplements, lifestyle, and other known contributors to wellness as if we were passive recipient of self-in-the-world. Our meaning-maker interprets our internal and external environments mostly based on cultural parameters learned to maximize the contextual relevance of our experiences. These biocognitive interpretations (mind, body, culture), we make affect our nervous, immune, and endocrine regulations by enhancing or diminishing interventions for wellness longevity. The meaning-making component I propose embraces a convergence of biology, cognition, and culture, emphasizing how deeply interwoven our subjective experiences are with our physiological health. The notion that cultural interpretations affect our biology suggests that the meaning we ascribe to our lives and the world around us isn't just a passive, abstract process, but actively shapes the way our body functions, adapts, and reacts. I will present evidence from my research with healthy centenarians of how we perceive and emote our world affects stress and inflammatory processes.

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Lev Salnikov

AntiCA Biomed San Diego, USA

Biography

Lev Salnikov, MD, PhD, has many years of experience in the field of oncology and nuclear medicine. For the last 10 years he has been involved in work related to systems biology and problems of biological bases of aging. In this direction he worked in collaboration with Boston University and after with Sib Enzyme US LLC, and at the present time with AntiCA Biomed, San Diego, CA 92111. He has publications in Future Science OA, Frontiers in Aging journals.

A New Trend in The Field of Rejuvenation Could Be a Cellular Auto cloning

The main goal of gerontology is to slow down the aging process and eventually stop it. Today, the most promising method to achieve this is cellular reprogramming. The use of regulatory factors that cause the cells to temporarily lose its differentiation, allows

them to reverse its epigenetic and biological age. However, while this method has yielded positive results at the cell culture level, its application at the organismal level faces great difficulties. This is mainly due to the need to deliver such regulatory factors to almost every cell in the body. To overcome the main limitations of this method of rejuvenation we suggest using our proposed direction, called "cells auto cloning". The principle of the proposed rejuvenation method is as follows: a special type of cell nucleus division process is periodically launched in the cell genome with the formation of one unstable daughter copy and its subsequent self-liquidation. During this process, cell division stops at the nuclei divergence phase without subsequent physical separation of the cell itself. This is especially important for postmitotic cells, where the closing of the "unidirectional" line of their ontogenesis program into a "ring" will mean their transition into renewable cells. The prototype for auto cloning mechanisms can be the already known ways by which cells adapt to the increasing volume of their damage over time. These are polyploidy and asymmetric cell division, on the basis of which it is possible to obtain a renewable process of cell nuclei division, when as a result only the original nucleus remains. Cellular auto cloning, when initiated, will allow to nullify or stop aging at that "cellular age" when this "division without division" occurs, which is particularly important for non-dividing cells such as neurons. While this is not a simple task, there are possible pathways to accomplish it using approaches that current knowledge from molecular biology and genetics can suggest.

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Kalthoum Sfar

Saudi Electronic University, Saudi Arabia

Biography

Kalthoum Sfar holds a Doctorate in Economic Demography, specializing in the relationship between demographic growth and economic development, which she earned in 2011 from the University of Humanities and Social Sciences in Tunisia. Currently, she serves as an Assistant Professor at Saudi Electronic University in Saudi Arabia. She is a member of several professional organizations, including the European Association for Population Studies in the Netherlands, the International Studies Association, and the Institute of International Relations in Tunisia. She is actively engaged in research, with a paper titled "The Nexus Between Demographic Factors and Economic Development in the Kingdom of Saudi Arabia" currently in progress. Additionally, she has published a research paper on "The Role of Education in Economic Development in Saudi Arabia," scheduled for release in July 2024, as well as an article titled "The Extent of Employing Smart Education Strategies in Saudi Universities," which appeared in the International Journal of Educational Research and Development in January 2024.

Demographic Dynamics of Aging and Economic Restructuring – Challenges and Opportunities

The aging populations are changing global economies, with notable effects on technology, housing, healthcare, and labor markets. In addition to pos-

ing problems like growing healthcare costs, worker shortages, and a rise in the need for age-appropriate housing and the technology sector, this demographic shift also offers economic expansion and innovation, which is vital for the demands of aging populations.

This study aims to investigate the economic implications of aging populations using statistical software, SPSS (version 26), to identify trends, relationships, and projections across key sectors, including healthcare, housing, labor markets, and technology.

Data from interviews and surveys were conducted to collect healthcare expenditure reports, and labor market statistics, healthcare providers, industry experts, and technology innovators through Google Sheets. SPSS-based descriptive statistics were applied to summarize key trends, while regression analysis and multivariate modelling explored relationships between aging populations and economic outcomes. P-values were used to test statistical significance (significant: $P < 0.05$, $P < 0.01$, and insignificant: $P > 0.05$, $P > 0.01$)

The results showed a significantly positive relationship between aging populations and healthcare spending ($P < 0.01$), with regions showing an increase of 25% in healthcare expenditures. Housing demand exhibited a significant positive trend ($P < 0.05$), with an increase of 30% driven by age-appropriate housing and smart home technologies. The demand for skilled eldercare workers was projected raised by 40%, and upskilling initiatives significantly increased labor force participation in older adults ($P < 0.01$). The technology sector showed highly significant growth ($P < 0.01$), with an increase of 35% driven by innovations in age-tech solutions such as technology aids and smart home devices.

The findings highlight how crucial data-driven approaches are mitigating the financial effects of aging populations, especially with technological innovation, and the necessity of integrated solutions across healthcare, housing, labor markets, and technology, the study emphasizes the crucial role of technology industry in reducing obstacles and creating chances for economic growth.

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Trofimova Mariia

Saint Petersburg University, Russia

Biography

Mariia Trofimova is a molecular biologist, geneticist, and Tai Chi master with a diverse background spanning scientific research, international business, and wellness practices. She earned her degree from Saint Petersburg University, where she worked as a staff researcher. Her academic work focused on DNA recombination between bacterial transposons and yeast, as well as the regulation of translation suppressor genes in *Saccharomyces cerevisiae*. Over the years, she has built extensive experience in both the scientific and business sectors. In addition to her scientific career, she has pursued interdisciplinary education with certifications in Digital Marketing (Udacity), Paleontology (University of Alberta), Sociology (University of Amsterdam), and Data Science with Python and SQL (IBM). A dedicated practitioner of Tai Chi, she specializes in the Old Yang style and was awarded a gold medal at the 2025 China National Championship in Xi'an. Currently based in Germany, she leads a Tai Chi and Qigong group in Munich, promoting holistic health and well-being.

Psychophysical Conditioning as a Key to Active Longevity: Taiji and Qigong in the System of Social Adaptation for Older Adults

Modern society is facing the urgent need to extend active working life to the age of 75–77. However, this goal cannot be achieved without systematic psychophysical preparation. The prevailing narrative — “old age is inevitable, and my abilities are in decline” — must be replaced by a more constructive one: “old age is not a sentence. I know what to do in order to live actively and contribute to society for many more years.”

Comprehensive national programs should be developed to engage as many relatively healthy older adults as possible. These changes must begin early — with a revision of lifestyle patterns and the value systems associated with ageing.

This presentation introduces an approach based on Taiji and Qigong, traditional Eastern practices adapted for older adults. These methods support the development of emotional intelligence, balance, coordination, interoception, and cognitive function. A structured program is proposed: daily morning sessions of 1.5 to 2 hours, conducted in-person (as guided walks with exercise stops) or online. The content includes breathing exercises, meditation in motion, guided mental imagery (thought-forms), and adaptive physical routines.

Special attention is given to individualization, including protocols for people recovering from surgery, or living with Parkinson's disease, osteoporosis, or arthritis. The method has proven its effectiveness, including in the speaker's personal practice: I am an active trainer with nearly 30 years of Taiji experience and the gold medalist of the 2025 international Taiji tournament in Xi'an (style: Old Yang).

The presentation is relevant to researchers and practitioners in the field of ageing and social change, as well as to organizers of applied programs for active ageing.

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Yanying Liu

Qingdao Huanghai University, China

Biography

Yanying Liu is a professor currently teaching Medical Pathogenic Microbiology and Parasitology, Immunology, and Biochemistry at the Qingdao Huanghai University in China. She received her Ph.D. in Neurobiology from the Capital Medical University (China) in 2006. In the past decade or so, she has worked as a postdoc or research staff scientist engaged in scientific research related to neuroscience at SUNY Upstate Medical University or the University of South Dakota in the USA. Dr. Liu's research is related to several areas: Alzheimer's disease, Huntington's disease, stroke, and stem cells. Her current research interests are the mechanism of the aging process, brain hypoxia, and stroke.

The potential role of cannabidiol in Alzheimer's disease and aging may provide new insights into human health and longevity

The severe challenges brought by global population aging have placed a heavy burden on countless families worldwide, hindering the economic takeoff and the comprehensive development of societies in various countries. Alzheimer's disease (AD) is a common neurodegenerative disease characterized by progressive dementia accompanied by neurodegenerative changes in patients. Although the etiology of AD is still unclear, the fact that cellular senescence is one of the pathophysiological

features of AD reveals a close correlation between aging and the onset of AD. Cannabidiol (CBD) is a nonaddictive natural compound extracted from the plant cannabis. Although CBD has been used in many research fields since it has anti-inflammatory, antioxidant, anti-anxiety, neuroprotective, antiaging, and life-extending effects, there is still no consensus on whether CBD can bring new hope for the prevention and treatment of aging and AD. To better understand the relationship between CBD treatment and aging as well as AD, we first summarize the research progress on AD, aging, and CBD treatment in recent years, then analyze the interactions and correlations among AD, aging, and CBD using, and finally explore the molecular mechanisms by which they exert their effects. These findings may provide new insights for the prevention and treatment of AD, intervention in the aging process, and the application of CBD in daily life and clinical practice in the future.

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Yixin Chen

Qingdao Huanghai University, China

Biography

Yixin Chen is affiliated with the Department of Geriatrics at Huadong Hospital, Shanghai Medical College, Fudan University. Her primary research focus is on cognitive impairment, with a particular interest in early diagnosis, prevention strategies, and the management of age-related cognitive decline. She is committed to advancing clinical and academic understanding in the field of geriatric neurology and improving quality of life for older adults through evidence-based care.

Identification of the Shared Gene Signatures Between Alzheimer's Disease and Diabetes-Associated Cognitive Dysfunction by Bioinformatics Analysis Combined with Biological Experiment

Background: Increasing evidence shows that diabetes-associated cognitive dysfunction (DACD) is closely related to the development of Alzheimer's disease (AD). Although growing evidence supports that there is complex connection between DACO and AD, the re-

lationship at the genetic and molecular levels remains unclear.

Methods: The microarray data from Gene Expression Omnibus (GEO) were analyzed to screen differentially expressed genes (DEGs) of DACO and AD datasets. These DEGs were analyzed by weighted gene co-expression network analysis (WGCNA) to identify the modules and genes, respectively. Then, Gene Ontology (GO) enrichment analyses and Kyoto Encyclopedia of Genes and Genomes (KEGG) pathways analysis were performed on the common genes existing in the AD and DACO related modules by clusterProfiler and DOSE R software package. Finally, another two independent datasets were applied to confirm the results. We validated the genes screened by bioinformatics tools through molecular biology techniques.

Results: We found that 6 hub genes (GAD1, UCHL1, GAP43, CARNS1, TAGLN3, and SH3GL2) were the most significant with AD and DACO, respectively. Functional enrichment analysis showed that AD and DACO common genes were mainly enriched in signaling pathways such as synaptic vesicle cycle and GABAergic synapse. After culturing HT22 cells under high glucose and amyloid-25–35 (A β 25-35) conditions, we establish DACD and AD models which is used to further detect the expression levels of hub genes, and the experimental results are consistent with the analysis of the bioinformatics tools.

Conclusion: The study confirmed hub genes (GAD1, UCHL1, GAP43, CARNS1, TAGLN3, and SH3GL2) that related to AD and DACO, which may provide not only new insights into the pathogenesis of AD and DACO, but also novel targets for diagnosis and treatment of AD and DACO.

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Fatemeh Safaie

Iranian Research Organization for Science and Technology, Tehran, Iran

Biography

Fatemeh Safaie is currently pursuing her PhD in Biotechnology at the Iranian Research Organization for Science and Technology (IROST), where her research focuses on the anticancer and anti-aging properties of lactic acid bacteria in promoting skin health. She holds a Bachelor's degree in Microbiology from Azad University, North Tehran Branch (2011–2015), and a Master's degree in Biotechnology from Azad University, Tehran Medical Branch (2015–2018). She has hands-on experience in microbial research, including an internship project aimed at optimizing culture media for industrial probiotic strains to enhance biomass production. Her academic and research journey reflects a strong passion for microbiome science, particularly in exploring the therapeutic potential of beneficial microbes in dermatological and aging-related applications.

The Probiotic Skin Care and Anti-Aging Effects: Microbial Allies for Rejuvenation

Skin is the largest organ and the outermost defensive

layer, protecting it against the external destructive threats, including UV radiation, air pollution, and pathogens that interfere with its functions and consequently would result in different disorders such as aging. Although aging is a natural age-related phenomenon, comprising molecular and cellular damage accumulation throughout the lifetime, it is accelerated by various destructive treatments. It leads to the decline of functional efficacy of the organs, and the skin also undergoes this process. Thus, it is necessary to protect the skin to retard aging progression and help it reserve its efficacy. In this regard, there are various anti-aging therapeutics and surgical approaches. Meanwhile, probiotics, especially lactic acid bacteria, are believed to be a regulatory agent for sustaining microbial balance. The commensal microbes living on the skin play a crucial role in sustaining skin health and improving skin aging-related disorders. It is indicated that probiotics can produce several bioactive compounds such as hyaluronic acid, folate, lactic acid, and short-chain fatty acids by which, exerting their antioxidant, anti-inflammatory, antiaging, and anticancer effects. In this article, we aim to review the skin-related health benefits of the oral and topical applications of probiotic bacteria, alongside evaluating some experimental results related to the analysis of antiaging properties of some lactic acid bacteria. Given the obtained results, comparing some lactic acid bacterial strains, it is shown that *Streptococcus salivarius* subsp. *thermophilus* PTCC1738 and *Lactobacillus acidophilus* PTCC1643 are capable of significantly producing more amount of hyaluronic acid, alongside indicating antioxidant activity, and regarding folate production, the results showed that *Streptococcus salivarius* subsp. *thermophilus* PTCC1738 was able to produce the compound significantly more than other species. Hence, it is concluded that it would be possible to apply them as some anti-aging approaches.

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Jiaxiu Zhao

TexasTechUniversityHealthSciences, USA

Biography

Jiaxiu Zhao is a doctoral student in Geriatric Medicine at Shanghai Medical College, Fudan University. Her research specializes in frailty syndrome and Comprehensive Geriatric Assessment (CGA), with a dual focus on: (1) investigating the pathophysiological mechanisms of aging, and (2) developing evidence-based interventions to mitigate age-related functional decline. With demonstrated expertise in CGA standardization and frailty phenotyping, she has authored five first-author publications in peer-reviewed journals. Currently, her doctoral work involves clinical-translational research to develop standardized assessment protocols and targeted therapeutic strategies for geriatric populations.

Associations of the Neutrophil-to-Lymphocyte Ratio (NLR), Triglyceride-Glucose Index (TyG), and TyG-Derived Indices with Vitality Decline in Older Adults in China: A Study within the Integrated Care for Older People (ICOPE) Framework

Background/Objectives: Aging populations have led to numerous health challenges. The World Health Organization (WHO) proposed “Healthy Aging” to promote elderly health by optimizing Intrinsic Capacity (IC) with vitality as a core component of metabolic homeostasis. The relationships between vitality decline and inflammatory-metabolic indicators (the NLR and

TyG index) remain to be investigated.

Methods: This study recruited 986 community-dwelling adults ≥ 60 years old at the Beixingjing Street Community from March 25, 2024, to June 17, 2024, in Shanghai, China. Participants underwent comprehensive face-to-face assessments with IC evaluations conducted according to the Integrated Care for Older People (ICOPE) guidelines. Vitality was evaluated using the Mini Nutritional Assessment-Short Form (MNA-SF). The study population was divided into two groups based on vitality decline (scores < 12). Multi-variable logistic regression was used to analyze associations between vitality decline and other IC domains as well as between vitality decline and inflammatory (NLR) and metabolic indices (TyG, TyG-WC, TyG-BMI, and TyG-WHtR). Three logistic regression models constructed with progressive adjustments were used to assess associations between indices (NLR, TyG, TyG-WC, TyG-BMI, and TyG-WHtR) and vitality decline. Restricted cubic spline (RCS) analyses explored potential nonlinear relationships and threshold effects. Receiver Operating Characteristic (ROC) curve analysis was used to assess the discriminative capacity of different models.

Results: The prevalence of vitality decline was 16.43%. Vitality decline was strongly associated with psychological and locomotor capacity decline in fully adjusted models ($p < 0.05$). An elevated NLR showed a significant association with greater vitality decline ($OR = 1.233$, $p = 0.045$). Participants in the highest NLR quartile (Q4) demonstrated significantly greater odds of vitality decline compared to those in the lowest quartile (Q1) ($OR = 1.886$, $p = 0.043$). Conversely, unit increases in TyG-derived indices demonstrated protective effects as follows: TyG-WC ($OR = 0.988$, $p < 0.001$), TyG-BMI ($OR = 0.952$, $p < 0.001$) and TyG-WHtR ($OR = 0.120$, $p < 0.001$). In contrast, TyG alone did not reach statistical significance ($OR = 0.622$, $p = 0.078$). The highest-quartile (Q4) participants presented a significantly lower risk of vitality decline than the lowest-quartile (Q1) participants as follows: TyG-WC ($OR = 0.104$, $p < 0.001$), TyG-BMI ($OR = 0.052$, $p < 0.001$),

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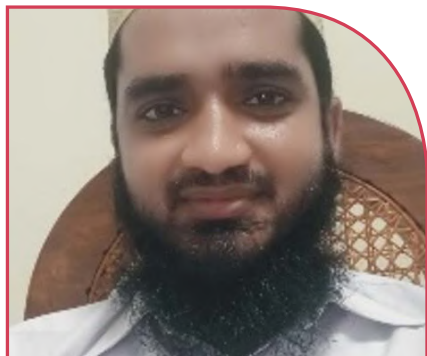
and TyG-WHtR (OR=0.070, $p<0.001$). Interaction terms between NLR, TyG and its indicators were analyzed in separate models and across quartiles. These terms did not show consistent significant associations with vitality decline. Effect sizes below the inflection points were substantially larger than those above thresholds, suggesting more pronounced effects at lower values. Among all biomarkers examined, NLR demonstrated the strongest association with vitality decline (AUC=0.873). Subgroup analyses revealed significant effect modifications exclusively for TyG-derived indi-

ces but not for NLR or TyG alone.

Conclusions: This study revealed a high prevalence of vitality decline among older Chinese adults, which was strongly associated with a decrease in psychological and locomotor capacity. NLR showed a negative linear correlation with vitality, whereas TyG-derived parameters showed nonlinear positive associations with a plateau effect. NLR showed optimal discriminative capacity among all indicators for identifying vitality decline.

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Waqas Ghulam Hussain

The Islamia University of Bahawalpur, Pakistan

Biography

Waqas Ghulam Hussain is a PhD Scholar in the Department of Statistics at The Islamia University of Bahawalpur, Pakistan. He has been actively involved in research related to obesity and body composition, particularly focusing on the relationships between socioeconomic status and health outcomes in diverse populations. Since 2021, he has collaborated on various studies aimed at understanding the impact of income distribution on health metrics like Body Mass Index (BMI) and Body Shape and Size Index (BSSI). He has presented at numerous national conferences, disseminating findings on obesity trends and health disparities among children and adults. He has co-authored multiple research articles published in reputable journals, contributing valuable insights to the fields of public health, statistics, and gerontology. His work emphasizes the importance of integrating socioeconomic factors into health policy and program design aimed at addressing obesity and improving overall health in Pakistan. In addition to his research activities, he is committed to mentoring students and enhancing the academic capabilities of aspiring statisticians. He is focused on fostering a greater understanding of statistical applications in public health research, aiming to contribute to evidence-based solutions for prevalent health challenges.

Examining the Relationship Between Obesity and Income Distribution Using Body Mass Index (BMI) and Body Shape and Size Index (BSSI): A Case Study of Pakistan

Statement of the Problem: Obesity has become a significant public health challenge worldwide, impacting millions and linked to various health issues, including hypertension, Type 2 diabetes, cardiovascular diseases, and certain cancers. This study investigates the relationship between obesity, as measured by Body Mass Index (BMI) and Body Shape and Size Index (BSSI), and family income distribution among children and adults in Pakistan. The rising prevalence of obesity, especially in context of changing socioeconomic conditions, poses urgent public health concerns.

Methodology & Theoretical Orientation: This cross-sectional study analyzed data from 2,223 individuals aged 2 to 19 years in Multan, Pakistan. Utilizing standardized procedures for measuring height and weight, we calculated BMI and introduced the BSSI as a more comprehensive anthropometric measure. Statistical analyses were performed to examine the relationship between obesity indices and family income, with a focus on gender differences as well.

Findings: The study found a significant correlation between higher family income and increased BMI and BSSI values, particularly among female participants. The mean BMI for individuals with family income below 10,000 PKR was 18.00, and it increased to 20.59 for those earning more than 50,000 PKR. Similarly, BSSI levels showed a corresponding upward trend with rising income.

Conclusion: Results indicate that socioeconomic factors play a crucial role in shaping body composition among the Pakistani population, suggesting a need for targeted public health interventions. Addressing the rising obesity rates necessitates a multi-faceted approach that includes improving socioeconomic status and access to healthcare. Recommendations highlight the importance of incorporating socioeconomic considerations into public health strategies aimed at combatting obesity. The findings highlight how crucial data-driven approaches are mitigating the financial effects of aging populations, especially with technological innovation, and the necessity of integrated solutions across healthcare, housing, labor markets, and technology, the study emphasizes the crucial role of technology industry in reducing obstacles and creating chances for economic growth.

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Jiaqian Wu

Sanford Burnham Prebys Medical Discovery, USA

Biography

Jiaqian Wu is a Ph.D. candidate at Sanford Burnham Prebys Medical Discovery Institute, specializing in cancer and molecular biology with a focus on fragment-based drug discovery. Her research centers on targeting challenging phosphatases such as STEP and VHR, using high-throughput screening and biophysical techniques to identify novel small molecule modulators and degraders. She has developed and validated first-in-class STEP PROTACs for Alzheimer's disease, demonstrating in vivo efficacy and blood-brain barrier penetration. She brings expertise in assay development, protein biochemistry, structural biology, and analytical chemistry. Before her Ph.D., she earned her M.S. in Chemistry from UC San Diego, where she studied membrane protein structure using NMR. Her collaborative work has contributed to multiple publications and conference presentations in the fields of neurodegeneration and oncology. She has received several research awards and scholarships and is passionate about translating mechanistic insights into therapeutic innovation.

Discovery and Characterization of Small Molecule Modulators of Striatal-Enriched Protein Tyrosine Phosphatase (STEP) for Alzheimer's Disease Therapeutics

Alzheimer's disease (AD) is characterized by the accumulation of amyloid-beta ($A\beta$) peptide and progressive cognitive decline. While therapies targeting $A\beta$ production, such as γ -secretase inhibitors, have shown limited success, alternative strategies that target early synaptic dysfunction are gaining attention. Striatal-enriched protein tyrosine phosphatase (STEP), a key negative regulator of synaptic strengthening, is aberrantly elevated in AD and contributes to synaptic and cognitive deficits. Importantly, reducing STEP activity genetically or pharmacologically has been shown to reverse these impairments in AD models, validating STEP as a promising therapeutic target.

In this study, we employed a fragment-based drug discovery approach to identify novel STEP-binding molecules. A library of 1,000 fluorinated fragments was screened using ^{19}F nuclear magnetic resonance (NMR) spectroscopy. Promising hits were further validated using multiple orthogonal biophysical assays, including 1D WaterLOGSY NMR, microscale thermophoresis (MST), and isothermal titration calorimetry (ITC). Based on the most potent and selective fragment, we rationally designed and synthesized a series of proteolysis-targeting chimeras (PROTACs) to induce STEP degradation.

Five candidate STEP PROTACs were characterized in SH-SY5Y neuroblastoma cells, demonstrating effective and selective degradation of STEP. Notably, one compound exhibited blood-brain barrier permeability and achieved potent in vivo STEP degradation.

Our work establishes a novel platform for the discovery of STEP degraders, representing the first-in-class STEP-targeted PROTACs. By addressing upstream synaptic dysfunction rather than downstream $A\beta$ accumulation, this strategy holds significant promise for developing disease-modifying therapies for AD.

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Neha Varanasi

Berkeley Preparatory School, United States

Biography

Neha Varanasi is a junior in high school (11th grade) passionate about music, singing, and piano. She is studying the impact of music on elderly patients and she is especially interested in neuroplasticity and the cognitive and therapeutic benefits of music for both children and the elderly. The study included 49 participants with a mean age of 87.53 (SD = 5.524), residing in assisted living facilities (ALFs) in Tampa, FL, United States. 25 were female with a mean age of 86.72 (SD = 5.908), and 24 were male with a mean age of 88.38 (SD = 5.018).

Impact of Receptive Music on Mood in the Elderly

Introduction: Depression is a very common phenomenon in elderly individuals. This study aims to evaluate the impact of a single session of singing and receptive music, conducted during four different time periods, on depression index and mood of elderly adults.

Method: A single intervention of music therapy (singing for a period of one hour) was conducted at assisted living facilities on four different sets of patients at four different intervals and its impact was measured on the Patient Health Questionnaire (PHQ-9) index.

Results: A paired t-test analysis was conducted on 49 participants with a mean age of 87.53 (SD = 5.524). Among the participants, 25 were female with a mean age of 86.72 (SD = 5.908) and 24 were male with a mean age of 88.38 (SD = 5.018). The mean PHQ-9 score before the intervention (BI) was 11.184 (SD = 4.367), and after the intervention (AI) it was 9.837 (SD = 3.821), showing a mean difference of -1.347 (SD = 0.948), with a p-value < 0.001. These results were statistically significant for the group as a whole, as well as for each individual session. These findings indicate a statistically significant reduction in depression levels across all sessions.

Discussion: This study clearly illustrates music therapy as an important tool to treat depression and mood with significant positive effects on mood, quality of life, and overall wellbeing.

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Geetika Malik Ahlawat

Chandigarh University, India

Biography

Geetika Malik Ahlawat is an Assistant Professor at the University Institute of Biotechnology, Chandigarh University, India. She holds a Ph.D. in Microbiology. She has authored many peer-reviewed research articles and book chapters, with her recent publication in Clinical Epidemiology and Global Health offering global insights into gut microbiota imbalances in Crohn's disease. She has received the "Best Teacher Award" (2022–2023) and is known for her interdisciplinary research in microbiome science, biosensors, and microbial therapeutics. Her academic journey spans teaching, research, and industry, including roles in biotechnology training. Passionate about translational microbiology, she actively contributes to advancing health research through microbiome studies and evidence-based approaches. As a speaker, she brings both academic depth and practical perspective to global discussions on microbiota-driven healthcare solutions.

Gut Microbiota Disparities Between Active Crohn's Disease and Healthy Controls: A Global Systematic Review

Background: Crohn's disease (CD) is challenging to manage. It has been suggested that modifying the gut microbiota could be a treatment strategy. We performed this systematic review to compare the gut microbiota between active CD and healthy controls.

Methods: A systematic literature search was conducted using several databases, including MEDLINE, Web of Science, Scopus, and the Cochrane Database of Systematic Reviews (CDSR), covering the years 2000 to 2022.

Results: A review identified 27 studies involving 954 patients with Crohn's disease and 972 healthy controls. The key findings:

- The family Enterobacteriaceae and genus Bacteroides were increased in active CD compared to controls in 13 and 8 studies, respectively. The family Oscillospiraceae and genus Faecalibacterium decreased in active CD vs controls in 12 and 10 studies, respectively.
- A reduction in gut microbiome diversity was found in patients with active Crohn's disease compared to the healthy controls.

Conclusion: A systematic review revealed that patients with active Crohn's disease have reduced gut bacterial diversity and have more harmful bacteria. These microbiota changes may contribute to the disease's progression, highlighting the need to understand these differences to enhance management and outcomes for aging populations with inflammatory bowel diseases

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Jennifer Hanners Gutierrez

Texas Tech University Health Sciences, USA

Biography

Jennifer Hanners Gutierrez completed her Ph.D. at the Texas Tech University Health Sciences Center (TTUHSC) in 2019. Gutierrez is currently a medical speech-language pathologist at University Medical Center in Lubbock, Texas and serves as a Clinical Assistant Professor for the TTUHSC School of Medicine. In 2016, Gutierrez was the keynote speaker for the Nutrition in Palliative Care Symposium (China, Hong Kong). Gutierrez taught on oral feeding amid critical illness and dysphagia in Lucknow, India (2018-2020). Gutierrez led international training on least risk oral feeding amid life-limiting illness (2019) and conducts associated research, publishing seminal work in 2024.

Pneumonia, Depression, and Mortality May Increase Based on Feeding Route in Persons with Dysphagia

Overmedicalization of patients with age and amid critical or life-limiting illness is a concern. Patients

with serious health care complications may have dysphagia (difficulty swallowing), and as a result, a feeding tube is often recommended for nutrition. Past studies have reported harm from use of tube feeding with certain patient populations, such as persons diagnosed with advanced dementia, end-stage stroke, or end-stage Chronic Obstructive Pulmonary Disease (COPD). Our aim was to investigate patient outcomes (pneumonia, depression, mortality) by feeding route (oral or tube) in persons diagnosed with end-stage stroke or COPD and dysphagia. Archival data analysis revealed pneumonia was 10.14 times more likely to occur in participants who were tube fed (OR = 10.14; $p < .001$). Depression (OR = 2.79; $p = .01$) and mortality (OR = 3.02; $p < .01$) were also more likely with tube feeding versus oral feeding. I then collaborated with a renowned Palliative Medicine physician with an aim to complete a prospective study (now pending publication) which mimicked the original study's design across additional diagnoses and replicated results. Based on the results of my research endeavors related to the best option for feeding route when a patient desires nutrition amid life-limiting illness with dysphagia, I have worked diligently to collect data at my hospital over the past 2 years. My team has discovered effective risk reduction strategies. If a patient elects to eat by mouth with risk of aspiration by informed autonomous consent, oral feeding can still be accomplished with dignity and comfort. Research and clinical findings should encourage consideration of oral feeding at the end of life and, with age, a patient's continued desire to enjoy favorite foods and drinks should be heavily weighed. The choice to eat orally should not be withdrawn by default, as evidence does not support this practice.

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Alexandru Calin Grigorescu

Hospital of Nephrology Bucuresti, Romania

Biography

Dr. Alexandru Calin Grigorescu is a leading Romanian medical oncologist and clinical researcher with over 40 years of experience in oncology, pulmonology, and palliative care. He holds a PhD in Oncology-Pulmonology and serves as a Habilitated Doctor and Researcher I at the Hospital of Nephrology "Dr. Carol Davila" in Bucharest. His extensive training includes fellowships in France and Switzerland, and he has held prestigious research titles under the Romanian Medical Academy

and Ministry of Health. A former National Representative for both ESMO and SIOG, He is also a member of ASCO, IASLC, and EAPC. He is Chief Editor of *Oncolog Hematolog*, a reviewer for Elsevier journals, and an Honorary Member of the Romanian Academy of Medical Sciences.

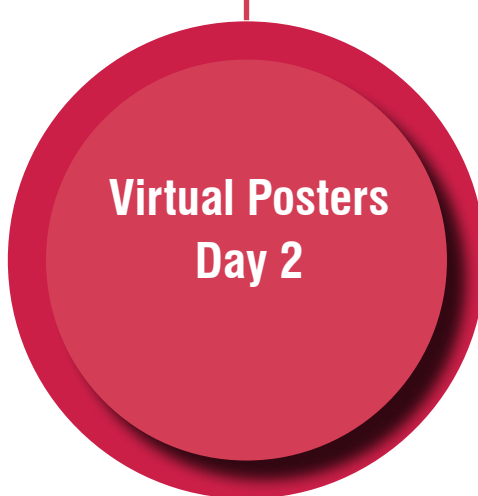
Review of Quality of Life for active treated patients and for palliative care treated patients with cancer

This short review analyzes the definition and measurement of quality of life in oncological patients both during active antitumor therapy and during palliative care. Regarding quality of life during curative treatments, quality of life plays an important role both in routine clinical practice and in clinical trials that substantiate the therapeutic effect of an antineoplastic drug both through response rate, survival and through the assessment of patients' quality of life. We have described the main instruments for assessing quality of life and their scope of application in oncology. In conclusion, quality of life is a particularly complex notion, no questionnaire being complex enough to assess it. New studies based on mathematical formulas or artificial intelligence are necessary for a more efficient assessment of the quality of life of oncological patients.

Joint Event

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Virtual Posters
Day 2

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Natalie DeSouza

Universidade Federal do Rio de Janeiro, Brazil

Biography

Natalie DeSouza holds a Bachelor's degree in Social Communication with a major in Journalism from Centro Universitario Carioca, and a second Bachelor's degree in Psychology from Centro Universitario Celso Lisboa. She has completed postgraduate studies in Sociology at Universidade Gama Filho and in Mental Health and Psychosocial Care at Universidade Estacio de Sa. She earned a Master's degree in Psychiatry and Mental Health from IPUB/UFRJ and is currently pursuing her PhD in the same field at IPUB/UFRJ. Her academic and professional focus lies at the intersection of social psychology and neuroscience, particularly in the institutional role of psychology in promoting mental health among workers and advancing inclusion for individuals with developmental disorders. Natalie is dedicated to transdisciplinary approaches in psychology, with a special interest in early- and late-onset dementias and their effects on the quality of life of patients and caregivers. Her current research explores decision-making capacity and disease awareness in individuals with early-onset and late-onset Alzheimer's Disease. She collaborates on ongoing studies at the Center for Alzheimer's Disease and Other Mental Disorders in Old Age (CDA/LabCons/IPUB-UFRJ).

Differences of pattern of impairment: Decision-making capacity in people with Mild Cognitive Impairment and Alzheimer's Disease

Background: Mild Cognitive Impairment (MCI) is an intermediate state between normal aging and dementia. People with MCI may be aware that their memory or mental ability has worsened. Alzheimer's Disease (AD) is the most common form of dementia, characterized by gradually progressive cognitive and functional deficits and behavioral changes. The decision-making capacity is the process of making choices by identifying a decision, gathering information and assessing alternative resolutions, and selecting an appropriate action from several possible actions. There is a lack of research on differences between decision-making capacity in People with MCI and People with AD.

Method: A cross-sectional study included 137 participants, being 37 people with MCI, 50 people with mild DA and 50 people with moderate DA.

Result: People with MCI were more cognitively aware and more aware of cognitive deficits and health conditions, with moderate effect sized. All people with AD presented deficits in the domains of decision-making capacity, with more impairment in understanding. There was a relationship between understanding and awareness domains, such that awareness was particularly important for decision-making capacity in the AD group.

Conclusion: Better awareness involved better understanding in the MCI group. Clinically, our findings shed light on the need to consider the differences in the domains of decision-making capacity and their relationship with other clinical aspects. Furthermore, our data can suggest hypotheses for larger and longitudinal studies.

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Maryam Koosha

Institute for Humanities and Cultural Studies, Iran

Biography

Maryam Koosha, Ph.D., is an esteemed scholar in Social Welfare from Allameh Tabataba'i University, Tehran, with a distinguished focus on elderly social health and medical sociology. Her doctoral dissertation, a seminal analysis of Iran's elderly social health policies, underscoring her academic rigor. As a research specialist at the Motamed Cancer Institute and the Institute for Humanities and Social Studies, she has spearheaded pioneering projects on aging, breast cancer prevention, and socioeconomic determinants of health, shaping evidence-based policy frameworks. A member of the Iranian Sociological Association, Koosha is a respected peer reviewer for prestigious journals, including BMC Geriatrics and International Journal of Psychiatry. Honored as Outstanding Researcher in 2018 and Best Speaker at the 12th International Breast Cancer Congress in 2017, her interdisciplinary contributions bridge sociology and public health, offering transformative insights for aging populations globally, particularly in Iran's socio-cultural context.

Advancing Elderly Social Health in Iran: Policy Analysis and Recommendations (2000s–Present)

Iran faces an accelerating demographic shift toward an aging population, necessitating urgent reforms in social health policies for the elderly. This study comprehensively analyzes Iran's elderly social health poli-

cies from the 2000s to the present, identifying critical gaps and proposing actionable policy measures to enhance elderly well-being. Employing a qualitative methodology, the research integrates four key approaches: document analysis of foundational policy texts, semi-structured interviews with elderly individuals, expert interviews with aging specialists, and the Delphi method for consensus-building among experts.

Findings reveal multifaceted challenges across individual, familial, and societal levels. Individually, outdated educational programs, post-retirement income decline, and inadequate social-economic support systems undermine elderly well-being. Familially, generational gaps, limited family engagement, and diminished respect for the elderly exacerbate social disconnection. Societally, the absence of age-friendly infrastructure, weak community structures, pervasive isolation, negative media portrayals, and outdated support policies hinder progress. Policy-specific issues include fragmented coordination, weak enforcement, and insufficient transparency in implementation.

To address these challenges, the study proposes four transformative policy pillars: (1) strengthening government-led good governance to ensure robust policy frameworks and service delivery; (2) enhancing management and oversight systems to improve service quality; (3) leveraging accurate, up-to-date data for evidence-based policymaking; and (4) fostering active engagement of elderly individuals and service-providing institutions to enhance social cohesion and quality of life. These recommendations provide a roadmap for policymakers to address Iran's aging crisis effectively.

This study underscores the pressing need for systemic policy reform to support Iran's growing elderly population, offering a scientifically grounded framework for advancing social health and inclusion. Its findings are particularly relevant for global discourse on aging, providing insights into addressing similar challenges in rapidly aging societies.

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