

Aging & Cognition Conference

2023

April 11-14

Leuven

Program Overview

Conference Day 1 – April 11th		
18h - ...	Opening reception and registration	<i>Zaal Couvreur</i>
Conference Day 2 – April 12th		
9h-9h45	Registration	<i>Grote Aula</i>
9h45-10h	Conference Opening	
10h-10h50	Keynote #1 with Mike Martin	<i>Grote Aula</i>
10h50-11h20	Coffee break	<i>Jubileumzaal</i>
11h20-13h	Plenary session – Everyday Cognition	<i>Grote Aula</i>
13h-14h	Lunch	<i>Jubileumzaal</i>
14h-14h50	Keynote #2 with Helen Henshaw	<i>Grote Aula</i>
14h50-16h30	Plenary session – Optimizing Sensory and Motor Functioning	<i>Grote Aula</i>
16h30-18h	Poster session 1 & drinks	<i>Jubileumzaal</i>
18h30-19h30	EUCAS Member Assembly	<i>Jubileumzaal</i>
Conference Day 3 – April 13th		
9h-9h50	Keynote #3 with Eva Van den Bussche	<i>Grote Aula</i>
9h55-11h30	Plenary session – Cognitive Control	<i>Grote Aula</i>
11h30-13h	Poster Session 2 & Coffee Break	<i>Jubileumzaal</i>
13h-14h	Lunch	<i>Jubileumzaal</i>
14h-14h50	Keynote #4 with Karen Li	<i>Grote Aula</i>
14h50-16h30	Plenary session – Multitasking	<i>Grote Aula</i>
16h30-18h	Poster session 3 & drinks	<i>Jubileumzaal</i>
19h30	Social Evening	<i>'t Oud Gasthuys</i>
Conference Day 4 – April 14th		
10h-10h50	Keynote #5 with Ulrich Mayr	<i>Grote Aula</i>
10h50-11h20	Coffee break	<i>Jubileumzaal</i>
11h20-13h	Plenary session – Aging and Socio-Emotional Processing	<i>Grote Aula</i>

Keynote speakers – abstracts

Keynote #1 with Mike Martin

Everyday Cognition – A roadmap to making what matters most the center of cognitive aging research

With new conceptual, technical, and analytical developments, two new perspectives on cognitive aging are possible. First, we can add meaningful cognitive activities (not only abilities) as a relevant outcome for research and interventions. Second, as we can measure the engagement of cognitive abilities in real life contexts, we can exploit data from natural experiments to study the effects of cognitive training on cognitive development across the lifespan. Third, we can expand the range of learning paradigms from mostly Stimulus-Response learning to learning to differentiate the understanding of real life phenomena. This can guide the development of new experimental and real life paradigms that match more closely the characteristics of learning in real life contexts. The presentation will lay out a roadmap to making everyday cognition the center of cognitive aging research and align it with the ambitions of the UN Decade of Healthy Aging.

Keynote #2 with Helen Henshaw

Hear hear! Executive functions are key to improving auditory perception and quality of life for adults with age-related hearing loss.

Auditory training can be broadly defined as teaching the brain to listen through active engagement with sounds. For most auditory training tasks, listeners are asked to make perceptual distinctions between sounds presented systematically. Often, difficulty levels are adaptive to work listeners at their 'edge of competence'. Across multiple studies, our results demonstrate that this type of focused listening task can result in improvements for trained task(s) that also transfer to generalised improvements in real-world speech perception and cognition for older adults with hearing loss and hearing aid users.

Through a deeper understanding the underlying mechanisms of training and transfer, in particular the role higher-order cognitive control processes, we explain why there is mixed evidence for the efficacy of different auditory-training approaches across synthesised evidence in the field. Drawing upon tasks that index executive functions, new training tasks have been developed, designed to maximise domain-general improvements in cognition to benefit auditory perception and real-world listening for adults with and without hearing loss.

Keynote #3 with Eva Van den Bussche**Cognitive Control in a Digital, Aging Society: Challenges and Opportunities**

We live in an aging society, which is accompanied by increasing challenges at the individual, interpersonal, clinical and societal level. At the same time, our Digital world is also becoming increasingly more complex: it requires efficient and flexible cognitive skills, such as cognitive control. Cognitive control enables us to successfully act in situations where routine behavior is absent or where we need to overrule our habits to achieve our goals. Without it, barely any daily activity would be possible. In our complex world, cognitive control is essential to process, select, prioritize and inhibit continuous and complex flows of information. However, precisely these cognitive control skills deteriorate with age. During this talk, I will pinpoint challenges and opportunities for cognitive control in our digital, aging society. Addressing which, when and how cognitive control functions decline in healthy aging is important to provide an integrative view on cognitive control in aging. Furthermore, studying the cognitive control ability of older adults when confronted with more demanding task situations, could shed light on the impact of our complex world on the growing aging population. Finally, we should also focus on cognitive skills that might remain intact or even improve with aging. More implicit cognitive processes, that are less reliant on cognitive control, might thrive in situations where cognitive control is depleted or decreased, such as in aging.

Keynote #4 with Karen Li**Multitasking in old age: Mechanisms and interventions**

The ability to perform cognitive-motor multitasking is an important determinant of quality of life and independence in old age. For example, an everyday task such as grocery shopping can be translated in the lab as a multitasking activity involving standing or walking, paired with cognitive tasks such as remembering, updating, or calculating. This keynote presentation is organized in two parts: Part 1 describes experimental approaches to understanding the cognitive underpinnings of multitasking in old age, with special focus of the detrimental effects of hearing loss on multitasking ability. Part 2 discusses training intervention studies that employ targeted cognitive training and/or aerobic exercise with the goal of improving cognitive-motor multitasking performance in older adults. The described studies include samples of healthy older adults, as well as older adults living with impairments of hearing or cognition.

Keynote #5 with Ulrich Mayr**The Age of Benevolence? Neural-level Exploration of Life-Span Changes in Prosocial Tendencies**

In my talk, I will discuss research—conducted by myself and others—into why people behave altruistically, and how and why such behavioral tendencies change across the adult life-span. I will focus on the important distinction between “pure” and “impure” altruistic motives, why it is notoriously difficult to make this distinction empirically tractable, and how the consideration of neural-level evidence can help answering the age-old “altruism” question. Indeed, recent research that integrates neural-level, self-report, and behavioral evidence points to a broad, “pure-altruism”, interindividual differences factor—which we refer to as *general benevolence*. Importantly, general-benevolence gains considerable in strength across the adult life-span. I will elaborate on implications of these results for dual-systems and value-based decision views of prosocial behavior and I will discuss some important open questions, thereby focusing in particular on a cognitive-aging perspective.

Plenary Sessions – overview

Everyday Cognition

11h25-11h45	Brinkhof Lotte P.	Are Older Individuals Predisposed to Habitual Control More Resilient.
11h50-12h10	Wolfe Kelly	Collaborative learning in older age: are there differences in performance when learning with a familiar or unfamiliar partner?
12h15-12h35	Dahl Martin	The integrity of dopaminergic and noradrenergic brain regions is associated with different aspects of late-life memory performance
12h40-13h	Breitfelder Laura	Examining the Relationship between Working Memory and Mind Wandering in the Everyday Lives of Older Adults

Optimizing Sensory and Motor Functioning

14h55-15h15	Rasooli Amirhossein	The role of inhibitory and excitatory metabolites in switching from a trained to an untrained task
15h20-15h40	Requier Florence	The Evolution of Subjective Cognition after Meditation Training and Non-Native Language Training in Older People: A Secondary Analysis of the Three-Arm Age-Well Randomized Controlled Trial
15h45-16h05	Edwards Jerri	Keys to Staying Sharp: Piano Training as a Cognitive Intervention for Older Adults with and without Mild Cognitive Impairment
16h10-16h30	Van Wilderode Mira	Towards a listening training paradigm: evaluation of cognitive contributions in normal-hearing young and middle-aged adults

Cognitive Control

9h55-10h15	Paitel Elizabeth R.	Frontal-Cerebellar EEG Connectivity During Executive Functioning Reveals Age-Related Compensation and Alzheimer's Risk-Related Deficits in Cognitively Intact Older Adults
10h20-10h40	Van de Vijver Irene	Age-related differences in the conception and use of chunking strategies during reinforcement learning
10h45-11h05	Phillips Louise	Age differences in emotional and cognitive inhibition in a Go-NoGo task.
11h10-11h30	Hoffman Paul	Age-related shifts in functional activation and response to difficulty during semantic and non-semantic tasks

Multitasking

14h55-15h15	Petersen Berkley	iTrain my Brain: A pilot study evaluating the effects of multiple object tracking on older adults' cognition and mobility
15h20-15h40	Mihalis Doulas	Dual-task walking on real-world surfaces: Adaptive changes in walking speed, step width and step height in young and older adults.
15h45-16h05	Stojan Robert	Frontal brain activation during everyday like motor-cognitive tasks in older adults – neural inefficiency or compensation?
16h10-16h30	Van Humbeeck Nathan	Adult development of multitasking involving postural control

Aging and Socio-Emotional Processing

11h20-11h40	Rosi Alessia	Increased prosocial behavior in aging: are older adults more altruistic toward recipients in need of monetary or non-monetary resources?
11h45-12h05	Ceccato Irene	Age-related differences in time estimation: the role of emotions
12h10-12h30	Hülür Gizem	The Perceived Quality of Social Interactions Differs by Modality and Purpose: An Event-Contingent Experience Sampling Study with Older Adults
12h35-12h55	Ballhausen Nicola	Current stressors affect older adults' prospective memory less than that of younger adults