

# BELGIAN ALZHEIMER YOUNG RESEARCHER CONGRESS

27TH OF MARCH 2026

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# PROGRAM

BELGIAN ALZHEIMER  
YOUNG RESEARCHER  
CONGRESS



# YOUNG RESEARCHER CONGRESS PROGRAM

27TH OF MARCH 2026 IN MECHELEN

**8:30 - 9.00**

**COFFEE**

9.05 - 9.15

JOOST MARTENS - OPENING WORDS

9.15 - 9.55

LUCÍA CHÁVEZ-GUTIÉRREZ (VIB/KULEUVEN) - CURRENT LANDSCAPE OF AD THERAPIES AND PATH FORWARD

9.55 - 10.10

EMILIE DOERAENE (UNIVERSITÉ LIBRE DE BRUXELLES) - INVOLVEMENT OF DIABETES AND ANTI-DIABETIC TREATMENT ON TAU PATHOLOGY PROPAGATION

10.10 - 10.25

PABLO LARGO-BARRIENTOS (VIB/KULEUVEN) - IDENTIFICATION OF SYNAPTIC TARGETS FOR THE TREATMENT OF TAUOPATHIES

10.25 - 10.40

MARINKA BROUWER (VIB/KULEUVEN) - THE THERAPEUTIC POTENTIAL OF NEURONAL BRINP2 IN AMELIORATING ALZHEIMER'S DISEASE SYMPTOMS BY INCREASING LYSOSOMAL EXOCYTOSIS

BREAK

11.00 - 11.40

AXEL MONTAGNE (THE UNIVERSITY OF EDINBURGH/UK DRI) - MICROVASCULAR DYSFUNCTION AND BLOOD-BRAIN BARRIER FAILURE IN AGEING AND DEMENTIA

11.40 - 11.55

LAURA FUMAGALLI (VIB/UANTWERP) - XENOTRANSPLANTATION OF IPSC-DERIVED MICROGLIA TO ELUCIDATE THE IMPACT OF C9ORF72 HEXANUCLEOTIDE REPEAT EXPANSION

11.55 - 12.10

LIEN VAN HOECKE (VIB/UGENT) - WHEN COVID-19 MEETS ALZHEIMER'S: UNRAVELING THE EFFECT OF SARS-2 ON AD PATHOLOGY

12.10 - 12.25

GIULIA ALBERTINI (VIB/KULEUVEN) - DECIPHERING HOW LECANEMAB FACILITATES PLAQUE CLEARANCE IN HUMAN MICROGLIA

**12.25 - 14.00**

**LUNCH AND POSTER SESSION**

14.00 - 14.40

DIANA ARSENI - MRC LABORATORY OF MOLECULAR BIOLOGY (CAMBRIDGE) - LYSOSOMAL TMEM106B IN BRAIN AGEING AND DISEASE

14.40 - 14.55

CRISTINA VICENTE (VIB/UANTWERP) - NEW TECHNOLOGIES BRING NEW LIFE TO OLD PLAYERS IN NEURODEGENERATIVE DISEASES

14.55 - 15.10

BILAL KHALIL (VIB/KULEUVEN) - INVESTIGATING THE CONTRIBUTION OF TDP-43 PATHOLOGY TO DISEASE HETEROGENEITY AND VULNERABILITY IN DEMENTIAS

15.10 - 15.25

NURIA RUIZ-REIG (UCLOUVAIN) - DECIPHERING THE RELATION BETWEEN KIF2A DYSFUNCTION AND ALZHEIMER'S DISEASE PROGRESSION

BREAK

15.45 - 16.25

AITANA SOGORB-ESTEVE - CENTRO ALZHEIMER FUNDACIÓN REINA SOFÍA (MADRID) - IDENTIFYING BIOMARKERS TO ASSESS SYNAPTIC DYSFUNCTION

16.25 - 16.40

ROSE BRUFFAERTS (UANTWERP) - QUANTITATIVE SPEECH AND LANGUAGE MARKERS FOR THE DIAGNOSIS AND MONITORING OF FRONTOTEMPORAL DEGENERATION

16.40 - 16.55

FAHRI KÜÇÜKALI (VIB/UANTWERP) - IMPROVED CHARACTERIZATION OF ALZHEIMER'S DISEASE GENETIC RISK THROUGH ASSESSMENT OF BRAIN CELL-TYPE-SPECIFIC TRANSCRIPT DIVERSITY

16.55 - 17.10

LISA QUENON (UCLOUVAIN) - HOW TO DETECT WHO WILL DECLINE NEXT YEAR? DEEP COGNITIVE PHENOTYPING AND PLASMA ANALYSES TO PREDICT EARLY TAU AGGREGATION IN PRECLINICAL AD

**17.10 - 17.30**

**CLOSING DRINK**



# SPEAKERS

BELGIAN ALZHEIMER  
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# THERAPEUTIC APPROACHES & EXPERIMENTAL TREATMENTS

LUCIA CHAVEZ GUTIERREZ



Lucía Chávez-Gutiérrez (LCG) holds a PhD in Sciences with a major in Biochemistry from the National University of Mexico. Trained as an enzymologist with a strong background in structural biology, LCG explores proteolytic mechanisms and their (dys)regulation, under the premise that developing a solid mechanistic understanding of these processes will offer critical insights into how proteolytic switches control fundamental processes in physiology and disease.

Her fascination for proteases motivated her postdoctoral studies on  $\gamma$ -secretase intramembrane proteases in the laboratory of Bart De Strooper at the VIB-KU Leuven Center for Brain and Disease Research, Belgium. LCG's studies on  $\gamma$ -secretase proteases and their pathogenic involvement in the familial form of Alzheimer's disease (AD) settled down a long-standing "loss-of-function vs. gain-of-function" debate on familial AD etiology (Chávez-Gutiérrez et al, EMBO 2012; Szaruga et al, JEM 2015 and Veugelen et al, Neuron 2016). In this work, she demonstrated that disease-linked mutations in Presenilin (catalytic subunit of the  $\gamma$ -secretase) and the amyloid precursor protein (APP) have no consistent inhibitory effects on the global activity of the protease—that controls key signalling cascades— but invariably lead to enhanced generation of longer and amyloidogenic  $A\beta$  peptides from APP.

Her recent mechanistic work depicts  $\gamma$ -secretases as metastable structures and AD-linked mutations as destabilizing variants that weaken  $\gamma$ -secretase and APP (enzyme and substrate) interactions during proteolysis and thereby lead to enhanced generation of amyloidogenic  $A\beta$ s (Szaruga et al, Cell 2017). These findings place  $A\beta$  at the core of AD pathogenesis and importantly, put forward a novel model for the sporadic and most common form of Alzheimer's disease, in which environmental factors (potentially linked to aging, diet or life style) modulating the stability of  $\gamma$ -secretase/APP interactions alter the risk for AD.

LCG lives in Belgium with her husband and two children. She is group leader at the VIB Center for Brain and Disease Research and Assistant Professor at the University of Leuven.

# THERAPEUTIC APPROACHES & EXPERIMENTAL TREATMENTS

EMILIE DOERAENE

Emilie Doeraene obtained her master's degree in biomedical sciences with a specialization in neuroscience in 2021. During her master's degree, she completed an internship in Karelle Leroy's laboratory to study the role of kinases in tau pathology propagation. She is currently performing a PhD thesis in the laboratory of Karelle Leroy, dividing her time between research and teaching. During her PhD, she contributed to seven articles in the field of Alzheimer's disease, which have been published in journals such as *Cells*, *Acta Neuropathologica*, or *Alzheimer's and Dementia* journals. She is currently studying the link between Alzheimer's disease and diabetes and their effects on tau pathology propagation, thanks to a Stop Alzheimer grant.



# THERAPEUTIC APPROACHES & EXPERIMENTAL TREATMENTS

## PABLO LARGO-BARRIENTOS

Pablo Largo-Barrientos studied Biotechnology at the University of Salamanca and completed his bachelor's thesis in Melbourne in the laboratory of Colin Masters. He then moved to Amsterdam, where he earned a master's degree in molecular neuroscience and conducted his master's research in the laboratories of Matthijs Verhage and Wiep Scheper. Pablo obtained his PhD at the VIB-KU Leuven Center for Brain & Disease Research under the supervision of Patrik Verstreken. He is currently a postdoctoral scientist in the same laboratory, where he investigates the molecular mechanisms underlying synapse loss in tauopathies.



# THERAPEUTIC APPROACHES & EXPERIMENTAL TREATMENTS

MARINKA BROUWER

Marinka Brouwer obtained her PhD in Neuroscience from the VU Amsterdam, the Netherlands, where she investigated the role of synaptic receptors in synapse formation and function. She is currently a postdoctoral researcher at KU Leuven, Belgium, studying the presynaptic protein Brinp2 and its role in TrkB/BDNF signaling, long-term synaptic plasticity, and age-related cellular stress. Her research explores early mechanisms driving neurodegenerative vulnerability.



# INFLAMMATION, IMMUNITY & VASCULAR CROSSTALK

AXEL MONTAGNE

Dr Axel Montagne joined the UK Dementia Research Institute at Edinburgh in 2020. He completed his PhD degree at the University of Caen Normandy (France), followed by postdoctoral training at the University of Southern California (USC) in Los Angeles. Axel rapidly became Assistant and then Associate Professor at USC in 2016 and 2020, respectively.

His career has focused on how cerebrovascular dysfunctions contribute to neurodegeneration and dementia in both animal models and humans.

In his UK DRI program, he combines molecular approaches with rodent non-invasive imaging, particularly MRI and microscopy techniques, to study the causes and effects of blood-brain barrier (BBB) dysfunction, with a particular focus on the Endothelium-Pericyte-Immune tripartite interactions, in the context of neurodegenerative disease.

Dr Montagne was awarded the 2021 SCOR Young European Researcher Prize for his research into Alzheimer's disease and a MRC Career Development Award in 2022. Dr Montagne was featured in the prestigious Highly Cited Researcher list from Clarivate in 2022, 2023 and 2024.



# INFLAMMATION, IMMUNITY & VASCULAR CROSSTALK

LAURA FUMAGALLI

Dr. Laura Fumagalli is a postdoctoral researcher with a strong interest in understanding the cellular mechanisms underlying neurodegeneration.

She studied Biology and specialized in Biomedical Science at the University of Milan and worked in Prof. Elena Cattaneo's lab using stem cells to study neurodegenerative processes. She completed her PhD at VIB-KU Leuven in Prof. Philip Van Damme's group, focusing on C9orf72 mutations in frontotemporal dementia (FTD) and amyotrophic lateral sclerosis (ALS). She is currently investigating how microglial dysfunction influences disease progression in C9orf72-associated FTD and ALS in the lab of Dr. Renzo Mancuso at the VIB Center for Molecular Neurology, University of Antwerp.



# INFLAMMATION, IMMUNITY & VASCULAR CROSSTALK

LIEN VAN HOECKE

Lien Van Hoecke is a postdoctoral researcher at the VIB Center for Inflammation Research and Ghent University. Trained as an immunologist, she earned her PhD in Biomedical Sciences at Ghent University, where she developed an mRNA-based onco-immunotherapy platform and gained expertise in immune modulation and translational research. Building on this foundation, she strategically transitioned into neuroimmunology to apply immunotherapy insights to neurodegenerative diseases.



Her current research focuses on understanding how immune niches at the brain borders, particularly the skull bone marrow, shape neuroinflammation and neurodegeneration in Alzheimer's disease. She investigates how skull bone marrow-derived immune cells are altered during pathology and how they, in turn, influence disease processes. To address these questions, she uses cutting-edge approaches, including skull-flap transplantation and advanced in vivo imaging, enabling direct tracking and manipulation of skull bone marrow-to-brain immune communication.

By integrating single-cell multi-omics, spatial technologies, and immune-modulatory interventions, her work aims to uncover how skull bone-marrow-to-brain communication shapes central nervous system immunity and contributes to neurodegeneration. Ultimately, she seeks to translate these insights into innovative, localized immunotherapies that restore immune balance at brain borders and slow the progression of Alzheimer's disease and related disorders.

# INFLAMMATION, IMMUNITY & VASCULAR CROSSTALK

GIULIA ALBERTINI

Giulia Albertini is a pharmacist and neuroscientist specialized in neuroimmune interactions in Alzheimer's Disease (AD). She earned her PhD at the Vrije Universiteit Brussel, where she investigated glial glutamate transporters and neuroinflammation across neurological disorders. Her postdoctoral research at Sorbonne University focused on serotonergic regulation of microglia during postnatal development and memory formation. Since 2021, she has been working in Prof. Bart De Strooper's lab at VIB-KU Leuven, integrating her expertise in neuropharmacology, imaging, and electrophysiology to elucidate early disruptions in neuron-microglia crosstalk and the microglial mechanisms underlying emerging disease-modifying therapies for AD.



# PROTEINOPATHIES, CELLULAR STRESS & DEGRADATION PATHWAYS

DIANA ARSENI

Diana Arseni graduated with an MSci in Biomedicine from the University of Lancaster in 2016. During her PhD at the University of Glasgow and Astrazeneca, Diana investigated mechanisms through which microglia mediate tissue damage in the context of multiple sclerosis.

In 2020, Diana started my postdoc at the MRC-LMB, in the lab of Ben Ryskeldi-Falcon, where her work focused on elucidated the structure of TDP-43 filaments from neurodegenerative diseases using cryo-electron microscopy.

In November 2024, Diana started her research group in the Neurobiology Division at the MRC-LMB. Her group studies mechanisms of brain health, ageing and disease focusing on the lysosomal protein transmembrane protein 106B (TMEM106B) which forms amyloids in the brain in an age-dependent manner.



# PROTEINOPATHIES, CELLULAR STRESS & DEGRADATION PATHWAYS

CRISTINA VICENTE

Cristina Vicente holds a PhD in Molecular Genetics from the University of Queensland in Brisbane, Australia. After her PhD, she joined the laboratory of Prof. Rosa Rademakers as a postdoc, at the Mayo Clinic Jacksonville in Florida, USA. She then relocated with the Rademakers laboratory to Belgium, where she currently works as a postdoc at the VIB-UAntwerp Center for Molecular Neurology. Using a combination of in vitro models and several multiomics datasets from human post-mortem brain tissue, her work focuses on investigating the contribution of epigenetics and non-coding variation to frontotemporal lobar degeneration.



# PROTEINOPATHIES, CELLULAR STRESS & DEGRADATION PATHWAYS

BILAL KHALIL

Dr. Bilal Khalil is a research scientist in Sandrine Da Cruz's lab at the VIB-KU Leuven Center for Brain & Disease Research. He obtained his PhD in Neuroscience from Aix-Marseille University, then did a first postdoc at Mayo Clinic Florida. He is an expert in investigating the molecular underpinnings of TDP-43 pathology in the context of Amyotrophic Lateral Sclerosis (ALS) and Frontotemporal dementia (FTD), and identifying potential disease modifiers that can mitigate TDP-43-induced neurodegeneration.

Using multiple in vitro, in vivo and ex vivo models, Dr. Khalil reported that TDP-43 pathology impairs mitochondrial dynamics and nucleocytoplasmic transport in neurons, and that targeting the pathology itself or downstream altered pathways can be neuroprotective. He is currently interrogating the contribution of TDP-43 proteinopathy to disease heterogeneity and vulnerability in ALS/FTD and related dementias, with a main focus on uncovering novel disease mechanisms associated with TDP-43 proteinopathy in axons.



# PROTEINOPATHIES, CELLULAR STRESS & DEGRADATION PATHWAYS

NURIA RUIZ REIG

Dr Nuria Ruiz-Reig holds a PhD in Neuroscience from the University Miguel Hernandez (Spain). During her doctoral studies, she completed two predoctoral research stays at Université Côte d'Azur (France) and at the University of Edinburgh (Scotland).

In 2016, she defended her PhD in developmental neurobiology and joined Professor Lamonerie's team in Nice (France) as a postdoctoral researcher with an individual postdoctoral fellowship from Ville de Nice ("Aides individuelles jeunes chercheurs").

In 2018, she moved to Belgium to perform her second postdoctoral training in the laboratory of Professor Fadel Tissir at UCLouvain, and in 2019, she obtained a postdoctoral fellowship from the Belgian government (FNRS "Chargé de recherches").

In 2023, she was appointed as a scientific collaborator from the FNRS, and she was awarded a pilot grant from the Stop Alzheimer Foundation. Currently, Dr Ruiz-Reig is leading an independent research line focused on the relationship between microtubule dysfunction and neurodegeneration.



# BIOMARKERS, DIAGNOSTICS & PREDICTIVE TOOLS

AITANA SOGORB-ESTEVE

Dr. Aitana Sogorb-Esteve is a principal investigator and director of the Biomarker Platform at Fundación CIEN, located within the Alzheimer Center Fundación Reina Sofía in Madrid, Spain. She studied Biology at the University of Alicante and completed a Master's degree in Neuroscience at the Miguel Hernández University of Elche, where she also earned her PhD in Neuroscience.



Since her postgraduate studies, her research has focused on identifying biomarkers for the diagnosis and monitoring of Alzheimer's disease and other dementias. After completing her doctorate, she moved to the United Kingdom, where she worked for seven years at University College London. There, she advanced her career as a dementia researcher at the UK Dementia Research Institute (UKDRI), where she was recognized as an Emerging Leader.

In 2021, she was awarded the Race Against Dementia fellowship, which enabled her to continue her research and establish her own research group. She has recently joined Fundación CIEN to lead the biomarker research team and continue advancing investigations aimed at helping individuals affected by neurodegenerative diseases.

# BIOMARKERS, DIAGNOSTICS & PREDICTIVE TOOLS

ROSE BRUFFAERTS

Rose Bruffaerts, MD, PhD, is a cognitive neurologist working at University of Antwerp with a specific interest in the early diagnosis of Frontotemporal Degeneration. She specialized in neurology at KU UZ Leuven and combined this with a PhD on the neurobiology of language. She then worked as a postdoctoral researcher at the Centre for Speech, Language and the Brain at the University of Cambridge (UK) and also at the Massachusetts Institute of Technology (USA).

Since 2021, she leads the “Computational Neurology” research group at UAntwerpen where new diagnostic tools for FTD are being developed. Her research group is focused on deriving quantitative metrics of speech and language from for instance spontaneous speech, to enable earlier diagnosis and to gain insight into related neurobiological changes such as atrophy patterns. Furthermore, we are particularly interested in comparing such metrics across different languages, which will facilitate clinical trials in FTD and related diseases



# BIOMARKERS, DIAGNOSTICS & PREDICTIVE TOOLS

FAHRI KÜÇÜKALİ

Fahri Küçükali is a researcher studying the complex genetics of Alzheimer's disease (AD) at the VIB-UAntwerp Center for Molecular Neurology in Antwerp, Belgium. He obtained his PhD in 2022 in the laboratory of Prof. Kristel Sleegers, where he continues his work as a postdoctoral scientist.

His research focuses on identifying novel genetic variants associated with AD and functionally characterizing their downstream effects on molecular phenotypes. He has contributed to large-scale genome-wide association studies (GWAS) for AD and has led integrative analyses for several neurodegenerative brain disease GWAS for nominating prioritized risk genes and molecular mechanisms. His current work focuses on further characterization of AD genetic risk through unraveling the role of tandem repeats and through linking AD genetic risk to brain cell-type-specific transcript alterations using novel methodologies.



# BIOMARKERS, DIAGNOSTICS & PREDICTIVE TOOLS

LISA QUENON

Lisa Quenon is a neuropsychologist with a PhD in Neuroscience from UCLouvain (2018). Her doctoral research, conducted within the Institute of Research in Psychology (IPSY) and the Institute of Neuroscience (IoNS), focused on relational memory processes—specifically how individuals learn, bind, and retrieve associations between words and faces. She investigated these mechanisms across young adults, healthy older adults, and patients with amnesic Mild Cognitive Impairment (aMCI), a prodromal stage of Alzheimer’s disease (AD). Using a combination of behavioral paradigms and neuroimaging methods, her work aimed to characterize subtle, early cognitive changes that may serve as markers of emerging AD pathology.



Building on this foundation, Dr. Quenon is now a postdoctoral researcher in the Louvain Aging Brain Lab at UCLouvain’s Institute of Neuroscience. Her current research focuses on brain-behavior relationships in aging, integrating advances in neuroimaging and fluid biomarkers to enhance early detection of AD-related changes before the onset of clinical symptoms. Through this multimodal approach, she aims to refine sensitive cognitive tools and identify early indicators that can support timely diagnosis and intervention in at-risk older populations.

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