RESEARCH CONNECTS

NEUROSCIENCE2026

BOOK OF ABSTRACTS

2nd Global Summit on

NEUROSCIENCE, NEUROLOGY AND BRAIN DISORDERS

March 12-13, 2026 | London, UK

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NEUROSCIENCE2026

FOREWORD

Dear Colleagues,

It is our great pleasure to extend a warm invitation to researchers, academicians, scientists, industry professionals, young scholars, and students from around the world to participate in the **2nd Global Summit on Neuroscience, Neurology and Brain Disorders**(**NEUROSCIENCE2026**), scheduled to take place in **London, UK**, from **March 12-13, 2026.**

NEUROSCIENCE2026 aims to bring together leading minds and innovative thinkers in the fields of Neuroscience Neurology and Brain Disorders. This summit will provide a dynamic platform to present the latest advancements, foster insightful discussions, and encourage cross-disciplinary collaborations among international participants.

The primary goal of this summit is to promote high-quality research and global partnerships in the areas of Neuroscience, Neurology and Brain Disorders and more. By gathering distinguished experts and early-career researchers, NEUROSCIENCE2026 seeks to accelerate scientific discoveries and facilitate the transfer of knowledge across borders.

We are looking forward to a vibrant exchange of ideas and the opportunity to explore emerging trends and innovations in neuroscience, neurology and brain disorders with participants from across the globe.

We hope to welcome you in London for a truly inspiring and enriching scientific gathering.

ORGANIZING COMMITTEE MEMBER

ApoE Isoforms, Glymphatic Instability and Persistent Regulatory Cortical Activation: A Mechanistic Model of Sleep Vulnerability in Neurodevelopment

Marco Carotenuto1*

Giuditta Bargiacchi1, Martina Gnazzo1, Paola Della Monica2, Federica Colapietra3, Marina Di Domenico3,

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ABSTRACT:

Sleep is a biologically active state supporting synaptic downscaling, glymphatic clearance, metabolic recalibration, and emotional integration, particularly during neurodevelopment. Beyond its established role in lipid transport and neurodegeneration, Apolipoprotein E (ApoE) is increasingly recognized as a regulator of glial–neuronal coupling, mitochondrial efficiency, and inflammatory signaling—processes central to sleep stability.

The three major human ApoE isoforms (□2, □3, □4) exert distinct effects on cortical excitability, microglial phenotype, and astrocytic function. ApoE4 is associated with mitochondrial stress, reduced ATP availability, impaired AQP4 polarization, and activation of the TREM2–APOE inflammatory axis. These alterations may compromise slow-wave sleep (SWS) generation and glymphatic flux, increasing vulnerability to sleep fragmentation.

At the microstructural level, sleep instability can be captured by Cyclic Alternating Pattern (CAP) dynamics, reflecting oscillatory fluctuations between cortical activation (A phases) and deactivation (B phases). We propose that ApoE-related inflammatory–metabolic dysregulation may bias CAP architecture toward increased regulatory load, promoting incomplete cortical downscaling during non-REM sleep.

Within this framework, we introduce the concept of Persistent Regulatory Cortical Activation (PRCA)—a state characterized by sustained cortical activation pressure, inefficient oscillatory recovery, and reduced restorative depth of sleep. PRCA may represent the physiological expression of isoform-dependent vulnerability, linking glymphatic inefficiency, neuroinflammation, and altered microstructural sleep regulation.

During critical developmental windows, when synaptic pruning and cortical maturation depend on stable oscillatory architecture, ApoE-driven PRCA may amplify susceptibility to cognitive and emotional dysregulation. Understanding these mechanisms may provide a translational bridge between genetic risk, sleep microstructure, and neurodevelopmental trajectories, supporting precision-based approaches in pediatric sleep medicine.

Keywords*: *Apolipoprotein E; Glymphatic System; Sleep Microstructure; Regulatory Cortical Activation

BIOGRAPHY:

Marco Carotenuto, MD, PhD, is Full Professor of Child and Adolescent Neuropsychiatry at the University of Campania "Luigi Vanvitelli" (Italy).

His clinical and research activity focuses on pediatric sleep disorders, neurodevelopmental conditions (ASD, ADHD), neuroinflammation, and translational sleep neurobiology. He has authored more than 300 peer-reviewed publications and serves in editorial roles for international journals in pediatric neurology and sleep medicine.

Professor Carotenuto's research integrates polysomnography, sleep microstructure (including CAP analysis), inflammatory biomarkers, and executive functioning assessment to characterize multidimensional sleep phenotypes in children. His work explores the interaction between glymphatic physiology, immune signaling pathways, and cortical regulatory dynamics.

He is currently developing biologically grounded models of Persistent Regulatory Cortical Activation (PRCA) to explain sleep instability across neurodevelopmental conditions and to support individualized diagnostic and therapeutic strategies in pediatric populations.

Mental Health: Emerging Factors Impacting Wellness and Quality of Life

Tisha Ornstein

Toronto Metropolitan University, Toronto Canada

ABSTRACT:

One billion people worldwide are purported to have mental health issues, in addition to the hundreds of thousands of people dealing with substance use disorders. These numbers are staggering and perhaps not surprising given the modern landscape, shaped by everchanging technology, and current societal and economic pressures. In Canada, millions of people are impacted by mental health conditions and addiction and in fact, prevalence of mental health illness (more so than drug use) has increased; 1 in 5 will present with mental health concerns in a given year. Research in the current lab has focused on several lines of discovery with one common theme: the evaluation of clinical correlates that may impact wellness. The present talk will present a lively discussion of several of our published works looking at the role of psychological factors on real-life functional compromise in community dwellers with acquired brain injury and, in-patient population with comorbid mental health conditions.

BIOGRAPHY:

Dr. Tisha Ornstein is a Clinical Psychologist and Clinical Neuropsychologist, and an Associate Professor at Toronto Metropolitan University in Toronto Canada. She is the Director of the Cognitive Neuroscience (Neuropsychology) Lab. To add, she is an Adjunct Affiliate Scientist in the Waypoint Research Institute at the Waypoint Centre for Mental Health Care. She received her Ph.D. from the Department of Psychiatry at the University of Cambridge, England. Following graduation, she completed a Postdoctoral Fellowship at The Hospital for Sick Children, and acquired her clinical training at various institutions in and around Toronto, including the Univesity Health Network - Toronto Rehab, Ontario Shores for Mental Health Sciences, and Edgewood Health Network Canada. Her clinical and research interests focus on the cognitive and psychological sequalae of various neuropsychiatric conditions with focused attention on acquired brain injury, and the interplay amongst psychological phenomena, pain complaints and perception, and functional disability that can solely or in combination impact daily functioning and activities of daily living. In addition, she teaches and supervises students at all levels of academic training, and provides assessment-based and counselling services in the community.

Dietary Equilibrium in Paroxysmal Sympathetic Hyperactivity

Dr. Arun Oommen

VPS Lakeshore Hospital, India

ABSTRACT:

Paroxysmal Sympathetic Hyperactivity (PSH) is a severe dysautonomic syndrome most commonly observed after traumatic brain injury, characterized by episodic hypertension, tachycardia, hyperthermia, diaphoresis, and dystonic posturing. While pharmacologic management remains central to treatment, nutritional modulation is an underexplored yet critical adjunct in stabilizing autonomic imbalance. This abstract examines the concept of dietary equilibrium in PSH, emphasizing optimized macronutrient distribution, micronutrient adequacy, and metabolic support to counter hypercatabolic states. Elevated sympathetic activity increases resting energy expenditure and protein breakdown, necessitating high-protein, energy-dense nutritional strategies. Electrolyte balance, particularly sodium, magnesium, and potassium, is essential to mitigate autonomic instability. Anti-inflammatory nutrients, including omega-3 fatty acids and antioxidants, may attenuate neuroinflammation and reduce episode severity. Glycemic control also plays a pivotal role, as glucose fluctuations can exacerbate sympathetic surges. Establishing individualized nutritional protocols alongside medical therapy may enhance recovery, reduce complications, and promote autonomic homeostasis in patients with PSH.

BIOGRAPHY:

Dr. Arun Oommen is a senior and distinguished Consultant Neurosurgeon at VPS Lakeshore Hospital, Kochi, India, with over two decades of clinical, academic, and social service excellence. He is recognized as one of the pioneering neurosurgeons in India, having performed more than 3,900 complex brain and spine surgeries, including brainstem surgeries, neuro-endoscopic (keyhole) procedures, aneurysm surgeries, spinal injuries, and complex tumor resections. Dr. Oommen is among the very few neurosurgeons in India with expertise in brainstem and endoscopic neurosurgery. His landmark surgical achievements include Kerala's first Synthes Codman Peek 3D skull reconstruction and the largest cranial reconstruction in Asia, along with performing aneurysm surgery on one of the oldest reported patients in the world. Academically, he holds both clinical and management qualifications, including a Master's in Hospital Administration, fellowships in Neuroendoscopy and Neurocritical Care, and is the first neurosurgeon in India to earn a doctorate in Hospital Administration. He serves on the advisory board of international medical journals and is a frequent faculty member and speaker at national and global neuroscience conferences. Beyond medicine, Dr. Oommen is deeply committed to social service. He leads several humanitarian initiatives including Project Samaritan, which has trained over 11,000 individuals in emergency trauma care, and serves as managing trustee and advisor to multiple NGOs supporting autistic children, the para-disabled community, and underprivileged populations. He is also a regular blood donor and community health advocate. Dr. Oommen has received numerous national recognitions, including the Bharat Gaurav Samman, Outstanding Rotarian Awards, Indian Business Leadership & Educator Award, and honors from the Kerala Governor and Union Ministers for his contributions to healthcare and social welfare.

Malaria in Childhood: Reducing Neurologic Morbidity through School-Based Diagnosis and Treatment

Andrew Macnab

University of British Columbia, Canada

ABSTRACT:

The issue: Neurologic complications from malaria are a major cause of morbidity among school-aged children worldwide where the disease is endemic, but are preventable with early diagnosis and effective treatment. Social determinants of health impact access to appropriate care; there is now a moral imperative to provide equitable access to WHO-advocated management as school-based programs offer an proven way to reduce morbidity, and currently very large numbers of children globally continue to suffer adverse neurologic consequences from malaria.

Pathophysiology: During the acute reproductive stage of plasmodium falciparum infections adhesion of malaria parasite-infected red blood cells occurs which causes acute disruption of flow in small cerebral blood vessels. The consequences of compromised microvascular blood flow are irreversible and can be lethal; they include vascular occlusion, cerebral inflammation from an excessive immune response (cytokine storm), and adherence of infected red blood cellsto the endothelium of blood vessels (sequestration).

Neurological sequelae: While most survivors of an acute infection recover, up to a third of infected children develop neurological deficits and cognitive sequelae, and untreated, partially treated and repetitive infections cause cumulative neurologic effects which rob children of their intellect and academic potential over time. Common neurological sequelae include ataxia, paralysis, paresis, cortical blindness, epilepsy, deafness, behavioral disorders, language disorders, and cognitive impairment.

Prevention: Death and disability from malaria in school-aged children can be prevented by timely diagnosis and prompt treatment, and the World Health Organization (WHO) continues to call for innovative interventions to improve accurate diagnosis and effective treatment despite the recent availability of malaria vaccinesbecause malaria-related child mortality and morbidity remain so high. Schools are a logical location to access the at risk target population, and a novel school-based, teacher-driven model is now available that has been shown in trials in Uganda and Malawi to be able to significantly reduce malaria morbidity; this model is applicable wherever malaria is endemic; and by lowering the risk of neurologic impairment from malaria, most probably will sustain children's academic potential.

School-based care: Teachers can be trained to do a rapid diagnostic test (RDT) for malaria on a drop of blood from a finger prick using a test kit based on antigen detection. Each day all children appearing ill at school are tested and those who are positive are then promptly treated with Artemesinin combination therapy (ACT). The trials of this model evaluated the effect of introducing teacher-driven RDT and ACT on the duration of absence from school (a recognized surrogate for morbidity due to malaria). In Uganda in the year pre-intervention 953 of 1764 pupils were sent homedue to presumed infectious illnessand the mean duration of absence from school was 6.5school days. Duringschool-based teacher-administered RDT/ACT (year 2),1066 of 1774 pupils were identified as sick, 765 of thesehad a positive RDT and received ACT, and their durationof absence fell to 0.6 school days($P < 0.001$).

Conclusion: Current rates of neurologic complications from malaria are unacceptable in school-aged children. Both RDT and ACT are WHO-endorsed management strategies and key components of most national malaria programs. Problematically, social determinants of health (e.g. remote/rural geographic location and poverty) impact both the availability of and access to these diagnostic and treatment entities.In addition to this school-based, teacher-driven model being a logical and relevant way to improve morbidity from malaria, its scale-up would meet the moral imperative to address the long recognized inequities in malaria care that continue to disproportionately affect the health and academic potential of school-aged children.

BIOGRAPHY:

Andrew Macnab is a Professor in the faculty of medicine at the University of British Columbia, Vancouver, Canada and a Fellow of the Stellenbosch Institute for Advanced Study (STIAS) at Stellenbosch University, South Africa. Highly respected as a clinician, he is also an award-winning researcher with a reputation for innovation and excellence. A world authority on health promotion using the WHO 'Health Promoting Schools' approach he has pioneered school-based programs in sub-Saharan Africa that effectively engage youth and have been shown to improve the health of children. Many of his initiatives include novel approaches to engage adolescents and raise awareness in society;his school-based, teacher-driven malaria care program is an example which is recognized to be applicable globally. He is also a world leader on the application of leading-edge technology to improve health care delivery.

Epigenetic and Nutrigenetic Approaches in Neurodegenerative Diseases and Longevity

Gulsen Meral

Epigenetic Coaching UK, Nisantası University Turkiye

ABSTRACT:

Neurodegenerative disorders arise from a complex interaction between genetic susceptibility and dynamic epigenetic regulation. Key nutrigenetic variants such as APOE 4, MTHFR C677T, VDR polymorphisms, and BCMO1 variants modulate neuronal resilience, mitochondrial performance, and neuroinflammatory pathways. Vitamin D, through its active form calcitriol, influences transcriptional programs by binding VDR/RXR heterodimers, remodeling chromatin states, and regulating nearly 10% of the human genome. Notably, VDR promoter methylation and impaired receptor signaling are linked to accelerated neuronal aging and cognitive decline. Genetic variations in vitamin D metabolism can intensify this vulnerability by reducing hormone activation, transport and receptor efficiency.

Nutritional epigenomics reveals that reversible DNA methylation drift, histone modifications, and non-coding RNA regulation are influenced by dietary factors such as vitamin D + A co-supplementation, one-carbon metabolism support, choline and folate intake, and antioxidant-rich Mediterranean dietary patterns. Lifestyle strategies including exercise, sleep hygiene and stress modulation have been shown to decelerate epigenetic clocks by up to several biological years.

BIOGRAPHY:

Prof. Dr. Gulsen Meral graduated from Istanbul University Cerrahpasa Faculty of Medicine in 1994. She became a Pediatrician in 2001 and served as a specialist physician, deputy chief physician, and chief physician at various hospitals. She completed her doctorate in Medical Genetics at Biruni University. She holds a master's degree in Hospital Management and a bachelor's degree in Turkish Language and Literature. She served as Advisor to the Rector at Northern Cyprus ITU between 2019 and 2021. She has taught Nutrigenetics at the postgraduate level and has taught both undergraduate and postgraduate courses in child development.

She is also an acupuncture instructor. She currently serves as a professor in the Department of Child Health and Diseases at Istanbul Nisantası University. She also continues her research and educational activities as the founder and manager of Epigenetic Coaching (UK).

Prof. Meral has numerous national and international scientific publications and has served on editorial boards and as a reviewer for various academic journals.

In addition to her scientific work, Prof. Meral is also interested in literature and has published five poetry books. She is the founder of the Nutrigenetics and Epigenetics Association in Turkey and the UK and is a member of Yeşilay, the Rumeli Association, the Istanbul Acupuncture Association, and the International Nutrigenetics and Nutrigenomics Association.

He has chaired the First, Second, and Third International Epigenetics Congresses and continues to provide leadership and training in the Epigenetics Coaching Program. Additionally, he delivers internationally accredited Continuing Professional Development (CPD) training in Nutrigenetics and Epigenetics Consulting to healthcare professionals worldwide.

Neuroimmune Interactions in Autoimmune Rheumatic Diseases: The Brain–Immune–Gut–Glymphatic Axis in Inflammation and Disease Expression

Codrina Ancuta

Grigore T. Popa" University of Medicine and Pharmacy of Iasi, Romania

ABSTRACT:

Rheumatic autoimmune diseases are systemic conditions in which persistent inflammation extends well beyond the joints and connective tissues, affecting multiple organs, including the brain. Over the last decade, advances in immunology and neuroscience have underscored the pivotal role of neuroimmune interactions in shaping both disease expression and patient outcomes. Systemic inflammation compromises blood–brain barrier integrity, activates microglia, and disrupts the neurovascular unit, thereby contributing to fatigue, cognitive dysfunction, depression, and chronic pain, symptoms frequently underestimated in rheumatology practice. Conversely, central nervous system circuits, through the hypothalamic–pituitary–adrenal axis, autonomic pathways, and vagal reflexes, modulate peripheral immune responses and influence systemic disease activity.

Two additional players in this dialogue have recently gained attention: the glymphatic system, a brain-wide clearance pathway whose dysfunction perpetuates neuroinflammation, and the gut–microbiota–brain axis, where dysbiosis alters permeability, cytokine signaling, and immune tolerancein conditions such as rheumatoid arthritis, systemic lupus erythematosus, and spondyloarthritis.

This lecture will examine these interconnected systems, with emphasis on emerging biomarkers, cytokines, autoantibodies, dysbiosis, and glymphatic dysfunction, and will highlight the therapeutic potential of biologics, microbiome-targeted approaches, and neuromodulation strategies.By integrating rheumatology, neuroscience, and microbiome science, we can advance towards a more holistic understanding of autoimmunity—one that views the brain not only as a vulnerable target but also as an active regulator of inflammation and immune homeostasis.

BIOGRAPHY:

Codrina Ancuța is a leading Romanian rheumatologist, serving as Professor of Rheumatology at the prestigious "Grigore T. Popa" University of Medicine and Pharmacy of Iași - one of the oldest and most respected medical schools in Romania, Consultant in Rheumatology, and Head of the 2ndRheumatology Department at the Clinical Rehabilitation Hospital. She graduated from the same university in 1994, obtained her specialization in Rheumatology in 1999 and in Rehabilitation Medicine in 2001, defended her PhD in Internal Medicine on the challenging topic of rheumatoid myositisin 2005, and completed her habilitation in 2019 with a thesis entitled "Insights and Perspectives in Immune-Mediated Rheumatic Disorders."

With more than two decades of experience, she has combined clinical excellence with academic leadership, also coordinating the EUSTAR (European Scleroderma Trials and Research) Center 162 in Iași. Professor Ancuța has acted as principal investigator or team member in over 90 randomized controlled trials, reflecting her strong engagement in advancing evidence-based therapies. She has authored numerous ISI-indexed publications, with significant contributions to the understanding and management of biological therapies in rheumatoid arthritis, spondyloarthropathies, and autoimmune rheumatic diseases such as lupus, systemic sclerosis, and Sjögren's syndrome.

She is also frequently invited by major pharmaceutical companies as an expert lecturer and scientific advisor, contributing to educational programs, symposia, and professional training activities in rheumatology at both national and international levels.

Her professional mission is to improve patient outcomes, inspire the next generation of clinicians, and foster innovation in rheumatology through compassionate care, rigorous research, and academic excellence.

Epidural Spinal Cord Stimulation for Motor-Sensory and Autonomic Function Recovery After Spinal Cord Injury

Aslihan Cevik Baran

Istanbul Aydin University, Turkey

ABSTRACT:

Background: Spinal Cord Injury (SCI) refers to damage from traumas such as traffic accidents, falls from heights, gunshots, or non-traumatic diseases such as tumors, bleeding, spina bifida, or degenerations such as tuberculosis and Covid. SCI can lead to significant neurological deficits and lifelong disability and isolatation from society; worst of all patients face the risk of early death after a difficult process for both themselves and their loved ones. SCI usually causes permanent loss of motor, sensory, and autonomic functions.

In recent peer-reviewed studies, spinal cord epidural stimulation (EDS) enabled voluntary movement and restoring of motor-sensory and autonomic functions. The present report describes functional outcomes, surgical and training complication rates, quality of life improvements, and patient satisfaction results after EDS. This procedure involves the implantation of a spinal cord stimulator that sends electrical impulses to the spinal cord by jumping. The concept of epidural stimulation dates back to the 1960s, when it was first used to treat chronic pain. But it wasn't until the 1990s that researchers began to explore its potential for treating spinal cord injuries. Spinal Cord Injury (SCI) is a debilitating condition that can result in severe neurological deficits, lifelong disability, and decreased quality of life. Despite advances in research, effective treatment strategies for SCI remain limited.

This study aims to evaluate the efficacy and safety of epidural spinal cord stimulation in improving motor, sensory, and autonomic functions in patients with SCI.

Materyal and Methods: The study involved 70 patients with SCI who underwent epidural stimulation surgery and programming treatments from August 2023 toMay 2025.

Data on patient demographics, injury characteristics, impact of epidural stimulation on motor, sensory, and autonomic functinal outcomes.perioperative and long-term complications were collected and analyzed.
We programmed the stimulators closely resemble the spinal cord's natural firing.

Findings: 70 patients withSCI underwent EDS using an epidural paddle electrode and internal pulse generator.
Injury levels were between C2-L2

The youngest patient was 7 years old and the oldest one was 72 years old
The longest trauma history was 28 years and the shortest was 3 months.

Epidural spinal cord stimulation resulted in significant improvements in motor, sensory, and autonomic functions in patients with SCI. The treatment was safe and well-tolerated, with diverse responses observed among patients. Each patient's treatment protocol, response to stimulation patterns and progression were in different way. It was observed that specific factors such as duration of trauma and age did not play a significant role in the speed of recovery.

Each patient's treatment protocol, response to stimulation patterns and progression were in different pattern. It was observed that specific factors such as duration of trauma and age were not significant in the rate of recovery. Functional improvements were achieved even when the stimulator was off; such as stepping, erection-ejaculation, hot-cold difference sensation.

Conclusion: This study highlights the potential of epidural stimulation as a promising option for enhancing motor, sensory and autonomic recovery in individuals with SCI. This study adds valuable insights into the use of epidural spinal cord stimulation for SCI rehabilitation, showcasing its safety and efficacy in a significant patient cohort. It also underscores the need for further research to quantify additional benefits and elucidate the role of epidural stimulation in SCI management.

Keywords*: *Epidural stimulation, Functional recovery, Neuromodulation, Rehabilitation, Spinal cord injury, Spinal cord stimulation, Spinal surgery, Technical note

BIOGRAPHY:

Prof. Dr. Aslihan Cevik Baran is a neurosurgeon currently serving at Istanbul Aydın University and her private clinic. She completed her medical degree at Hacettepe University (English program) in 2007 and her residency in neurosurgery at Haydarpaşa Numune Education and Research Hospital in 2017. Her thesis focused on "Lumbar Spondylolisthesis Parameters and Posterior Instrumentation-Post-Fusion Evaluation." Dr. Çevik Baran has held various leadership and clinical roles, including Chief Director at Prof. Dr. Ilhan Varank Sancaktepe Education and Research Hospital. She has been an Associate Professor at Istanbul Aydın University since 2022, where she continues to contribute to academic and clinical advancements in neurosurgery.

AI as a Clinical Co-Pilot in Alzheimer's and Dementia Care

Jahnavi Kachhia

Global Product Owner- AI & ML, USA

ABSTRACT:

Alzheimer's disease and related dementias are often diagnosed late and managed through fragmented care, limiting timely intervention and continuous patient support. This talk presents how production-grade artificial intelligence can be applied to improve dementia care across the clinical continuum, from early risk identification to ongoing patient and caregiver support.

The session will discuss the use of multimodal data and AI-driven models to detect early signals of cognitive decline, enable intelligent triage, and support clinicians through decision-support systems that preserve human oversight. Emerging approaches such as generative-AI copilots and agent-based AI systems will be examined, with a focus on reliability, safety, and regulatory considerations in real-world healthcare environments.

Drawing from large-scale deployments in regulated settings, the talk emphasizes practical engineering strategies for building trustworthy AI systems that improve care coordination, reduce caregiver burden, and deliver measurable clinical value for patients living with Alzheimer's disease and dementia.

BIOGRAPHY:

Jahnavi Kachhia is an Global Product Owner, AI & ML specializing in scalable, production-grade intelligent systems. Her work focuses on translating advanced machine learning research into real-world, high-impact applications, with emphasis on trustworthy and responsible AI. She has contributed to large-scale AI-driven platforms, including LLM-based intelligent systems and complex distributed technologies.

Jahnavi serves on the Program Committees of IJCAI (2025, 2026) and PAKDD (2026), reviews for leading AI conferences, and has peer-reviewed publications in IEEE Xplore and Hindawi spanning deep learning, signal processing, and applied AI systems

An Interpretative Phenomenological Analysis (IPA) on the Modification of the Female Organs through (FGM) and Breast Ironing (BI)

Ify Nwiwu

University of Sunderland in London, UK

ABSTRACT:

Harmful traditional practices such as female genital mutilation (FGM) and breast ironing (BI) continue to affect millions of girls and women worldwide, despite decades of global advocacy, legislation, and public health interventions. While FGM has gained significant international attention, breast ironing remains a largely under-recognised form of gender-based violence. Both practices are deeply embedded in cultural traditions and are often justified as protective measures intended to preserve a girl's dignity, morality, and social acceptance.

This research explores the lived experiences and perceptions of elderly women regarding FGM and BI, placing their voices at the centre of the conversation. As custodians of cultural traditions and key influencers within their communities, elderly women play a critical role in either sustaining or challenging these practices. Through an interpretative phenomenological approach, this study examines how these women understand the origins, meanings, and perceived benefits of FGM and BI, while also reflecting on the evolving tensions between cultural preservation and human rights.

The findings highlight the complex interplay between culture, gender norms, community expectations, and intergenerational transmission of beliefs. While many participants acknowledge the historical significance of these practices as rites of passage into womanhood, there is also emerging awareness of the physical, psychological, and social harm they cause. This tension presents both a challenge and an opportunity for meaningful change.

By amplifying the perspectives of elderly women, this research contributes to a deeper understanding of the cultural dynamics that sustain harmful traditional practices. It argues that sustainable eradication cannot rely solely on legal enforcement or external interventions. Instead, transformative change must involve culturally informed dialogue, community engagement, education, and the empowerment of local voices to challenge long-standing norms.

Ultimately, this study calls for a comprehensive, culturally responsive approach to ending FGM and BI—one that respects cultural contexts while prioritising the health, rights, and dignity of girls and women worldwide.

BIOGRAPHY:

Ify Nwiwu is a qualified and accomplished Registered Nurse, holding both RNLD and RGN registrations. She is a PhD researcher at the University of Wolverhampton, where her work focuses on the lived experiences and healthcare implications of Female Genital Mutilation (FGM) and Breast Ironing (BI). Ify graduated with a First-Class degree in Learning Disability Nursing and later completed a master's degree in Adult Nursing, both from the University of Wolverhampton. She is a multi-award-winning researcher, recognised at several national and international academic conferences for her work on FGM and BI. These accolades include recognition from institutions such as the University of Cambridge, Leeds Beckett University, and the University of Wolverhampton, among others. In addition, Ify has published a number of articles focusing on women's health, women's rights, cultural practices, and advocacy for vulnerable and marginalised groups. With a diverse professional background, Ify has worked extensively within the NHS as a Health Facilitation Nurse and a Mental Health Practitioner with CAMHS, as well as in the private healthcare sector. Her clinical, academic, and leadership experience informs her holistic and person-centred approach to care. Ify is currently a Lecturer in Learning Disability Nursing at the faculty of Health Sciences and Wellbeing at the University of Sunderland in London. She is deeply committed to advocacy for women and vulnerable children, using her own lived experience to inspire and empower others. Having pursued her education as an adult learner, she is particularly passionate about encouraging women to return to education, build confidence, and develop the skills to advocate for themselves and their communities. Her work reflects a strong commitment to social justice, equality in healthcare, and the advancement of culturally competent, trauma-informed practice.

The Misunderstood Individuals on the Autism Spectrum and how to help them with a Multi-Modality Holistic Process

Farah Ganjei Gron

New Life Homeopathy-Inc, USA

ABSTRACT:

This presentation will include not only a body of research on methods of healing, but also offers a process of self-care and inner development for the special children. It offers a multi-modality approach for these children and adults to heal and to creatively express themselves.

These special children and adults are here as teachers.

Classical Homeopathy is a holistic method that works on the many and varied root causes of autism and goes far beyond attempts to detox or eliminate particular symptoms. It recognizes each person as a unique individual. The remedies are chosen so they match the child on the physical as well as the emotional level. My method will be described in broad strokes for practitioners that use homeopathy as an adjunct.

The presentation will include information on how to provide the best educational settings for their high level of intelligence, how the family can create an environment to support creativity, information on nourishment, grounding, EMF, and more.

I will share the results of a retrospective study of 25 children with a formal diagnosis of autism in my practice. Each of them on average has improved 48.5% based on the Autism Evaluation Checklist provided by the Autism Research Institute. Other children with various challenges that are either undiagnosed or have other diagnoses such as PANS/PANDAS are evaluated separately in this study.

BIOGRAPHY:

Farah Ganjei Gron has a bachelor's degree in Computer Science. She found her calling in 1996 when she attended an introductory talk on homeopathy by the world-renowned homeopath, Dr. Luc De Schepper, M.D. From that point on, she studied with him for 14 years and wrote her post-fellowship thesis in 2011 on her particular method of using homeopathyto help the children with a diagnosis of autism. In 2009, Dr. De Schepper asked her to became his successor when he retired. In the past 20 years, she has been helping the general population and children on the autism spectrum and others with special needs.

Suicide in Neurodegenerative Diseases

Sara Abidar*1

Mohamed Nhiri1, Vittorio Bianchi 2

1Laboratory of Biochemistry and Molecular Genetics, Faculty of Sciences and Technology of Tangier, University AbdelmalekEssaadi, Tetouan, Morocco;

ABSTRACT:

Suicide is regarded as a public health issue. About 800,000 individuals are committing suicide annually, a number that does not take into consideration the forms of suicidality.Alzheimer's disease (AD), Parkinson's disease (PD), amyotrophic lateral sclerosis (ALS), and multiple sclerosis (MS) are considerably associated with suicidality and suicide. Despite the immense effort dedicated to research in this field, identifying risk factors and addressing the prevention strategies in this specific category of patients remains an unmet requirement.The main objective of the present study is to determine the relationship between AD, PD, ALS, and MS with suicide and suicidality using the PRISMA 2020 methodology to collect the clinical studies from Google Scholar and PubMed.

Although these diseases differ in terms of their neurochemistry, pathophysiology, symptoms, diagnosis, and treatments, their patients present a high risk ofsuicidal ideation, attempts, and completed suicide. Mental or psychiatric disorders, particularly depression but also low social connectivity or isolation, come across as the most prevalent risk factors that could lead to ideation and accomplished suicide.Furthermore, suicide and suicidality are usually recorded during the first years post-diagnosis in PD, ALS, and MS patients, while the outcomes in AD are contradictory.Weapons, mechanical harms, asphyxiation by carbon monoxide, self-strangulation, and drug and alcohol intoxication were the main means used to attempt or complete suicide.

So far, insights are scarce, and data about the prevalence, incidence, and severity of suicide or suicidality differ broadly. There is a clear gap in the literature in investigating connectivity signatures in these neurodegenerative diseases and suicidal patients.Further studies are required to clarify this paradigmatic arena to promote comprehension and awareness, which could improve the interventions provided and present explanations and interpretations of the mechanisms involved.

Keywords*: *Suicide; Suicidality; Neurodegenerative diseases

BIOGRAPHY:

Dr. SARA ABIDAR is a PhD researcher in neurobiology. Sara defended her PhD in Biochemistry-Neurosciences in 2021 at the Faculty of Sciences and Technology of Tangier, after a master's degree in Techniques and Experimental Methodologies of Biotechnology in 2015 and a bachelor's degree in Biological Engineering in 2013 at the same university. Sara focused on the neuroprotective effects of Ceratoniasiliqua L. (carob) against Parkinson's disease induced in rodents and zebrafish. To achieve her goals, Sara has, in 2018, received the EugenIonescu scholarship to pursue her experiments at the Faculty of Biology at the University AlexandruloanCuza of Iasi in Romania. In 2019, Sara chased her dreams in the United States as she received the Fulbright scholarship, which allowed her to consolidate her research at the Department of Biology of the University of Arizona, Tucson. Sara published her research in prestigious journals and received an innovation award for her promising results in Morocco.

Sara is an assistant editor for the journal Neurological Research (Taylor & Francis) and currently an associate member at the Laboratory of Biochemistry and Molecular Genetics, where she conducts research about the neuroprotective effects of phytochemicals against neurodegenerative disorders, particularly Alzheimer's and Parkinson's diseases, in collaboration with different international research institutions.

Modern Forms of Rehabilitation and Psychophysical Aspects of Functional Recovery in Post-Stroke Patients: An Analysis Based on the i-Wakka Device

Michalina Frankiewicz

Neuro rehabilitacion student Scientific Association, Medical University of Lodz, Poland

ABSTRACT:

Aims: Modern forms of rehabilitation are becoming increasingly common in the rehabilitation of patients, including stroke patients. However, most patients still lack access to them. The aim of this study was to examine the impact of modern rehabilitation methods on improving the psychological and self-motivational condition of stroke patients. It also aimed to determine whether motivation can influence engagement in further therapy and whether patients are willing to use modern devices.

Material and Methods: The study included 12 patients aged 47–82, including 5 men and 7 women with diagnosed upper limb spasticity resulting from a previous stroke. The device generates vibrations at frequencies of 0, 50, and 200 Hz, while the patient's task is to squeeze the device either in the presence or absence of vibration. i-Wakka records grip strength and displays it as a line on a tablet screen. The patient's goal is to reconstruct the displayed line by adjusting the applied grip force.

Our study included three questionnaires, the first of which contained 11 questions about the patients' use of the i-Wakka device and their approach to modern forms of rehabilitation. The seven-point MORE motivation scale, modeled on the Licerta scale, contained 17 questions and was designed to assess patient motivation. And a ten-point VAS pain scale aimed at assessing the patient's pain level before and at the end of the therapy.

Results:
1. Most participants (83%) had not previously used modern rehabilitation technology.
2. The difficulty of using the i-Wakka device was rated most variably, with 42% of respondents finding the device "rather easy to use," the same number finding it "rather difficult to use," and 16% selecting "I have no opinion."
3. Patients also believe that modern forms of rehabilitation can be more effective than traditional forms.
4. 100% of respondents stated that the i-Wakka device has a motivating effect on the rehabilitation process, and each participant expressed a desire to continue therapy using this technology.
5. The MORE scale scores ranged from 94 to 116, with the maximum score being 119. The lowest score was given to question 5 - "I do not want to be discharged from hospital until I achieve my goal of recovery".
6. VAS pain scale - during the first measurement, the average rating was 2.36/10. During the second measurement, all subjects rated their pain as mild, with an average of 1.45/10, representing an overall decrease of 0.9 points.

Conclusions: Access to modern forms of rehabilitation should be increased because patients are eager to work with such devices due to their influence on motivation. Patients positively perceive modern forms of rehabilitation and believe in their effectiveness, as well as treating them as a good alternative to traditional forms.

Rehabilitation with the i-Wakka device had a positive impact on the patients' pain perception, reducing it by one point, which may translate into a higher level of motivation and willingness to undergo rehabilitation in patients.

Keywords:motivation; modern technologies, stroke, i-Wakka

BIOGRAPHY:

Michalina Frankiewicz is a master's physiotherapy student, the vice-president of the largest research club in the field of physiotherapy at the Faculty of Health Sciences: Neuro rehabilitacion Student Scientific Association which operates at the Department of Neurological Rehabilitation, Medical University of Łódź.

She participated in an international research project carried out in Poland and Japan titled "iWakka-Vibe Based Vibration Therapy for Stroke Rehabilitation: A Multicenter Study on Frequency Optimization " conducted by international cooperation with Nagoya Institute of Technology.

Speaker at numerous national and international conferences (such as the 17th Conference of the Polish Society of Physiotherapy) and a co-organizer of the Japan-Poland 2025 Scientific Conference on Technologies Supporting Rehabilitation and Medical Services.

Interested in neuroscience, behavioral psychology, and neuroplasticity. As a member of the management board of Neurorehabilitacion Student Association, she actively participated in many socials incitive as a representative of the Medical University of Łódź.

Schizochytriumsp Extracts Prevents High Glucose -Induced Neurotoxicity in Hippocampal Neuronal Cells via Mitigation of Neuronal Apoptosis and Oxidative Stress

Tosin A. Olasehinde

University of Kwazulu-Natal, Durban, South Africa

ABSTRACT:

Hyperglycaemia- induced neurotoxicity involved in the pathogenesis of neurodegenerative diseases is associated high glucose consumption. In this study, we used high glucose (HG)- treated HT- 22 cell as in vitro model to investigate the neuroprotective effect of Schizochytrium spp. The HT- 22 cells were cultured in High glucose condition in the presence of different dose of Schizochytriumsp extract. Then, the viability of cells was measured using MTT assay. Neuronal apoptosis were also assessed using ethidium bromide and acridine orange dual staining technique and flow cytometry. Oxidative stress parameters such as reactive oxygen species (ROS), malondialdehyde (MDA) and glutathione levels (GSH) as well as glutathione peroxidase (GPx) activity were assessed. Also the effect of the extract on acetylcholinesterase activity was determined in the cells treated with high glucose. The extracts showed improved cell viability compared to high glucose treated cells. Schizochytriumsp also prevented neuronal apoptosis as shown by stained micrographs and flow cytometry results. The extracts also mitigated ROS and MDA levels while increasing GSH levels and GPx activity. The activity of acetylcholinesterasewere significantly reduced after treatment with Schizochytriumsp extracts in high glucose treated cells. Our findings revealed the neuroprotective effect of Schizochytriumsp extracts and provide possible insights into promising prevention therapy against high-glucose-induced neurotoxicity and neurodegeneration.

Keywords*: *Microalage; Schizochytriumsp, High Glucose, Hyperglycemia, Neurotoxicity;

BIOGRAPHY:

Dr. Tosin Abiola Olasehinde is a Post-doctoral Research Fellow at the School of Life Sciences, University of Kwazulu-Natal, Durban, Westville South Africa. She obtained my Bachelors and Master's degree in applied Biochemistry from the Federal University of Technology Akure Ondo State Nigeria. She also obtained my PhD in Biochemistry from the University of Fort Hare, Alice, Eastern Cape South Africa. Her research works have focused on studying the biological activities of functional foods, and natural products of medicinal plants aiming at a better understanding of their implications on the brain health and metabolic diseases. Currently, my interest is focused on searching for functional foods as a sustainable source of bioactive compounds with the potential to be incorporated into new health-promoting foods. She have authored about 80 articles indexed in Scopus and Web of Science. She is a recipient of several research awards, including the National Research Foundation of South Africa Fellowship award, Young Researcher grant sponsored by the African-German Network of Excellence and Alexander von Humboldt Foundation, International Society of Neurochemistry-committee for Aid and Education in Neurochemistry (ISN-CAEN1A) award, International Brain Research Organization (IBRO) International travel grant award and Africa regional Council (IBRO-ARC) bursary award tenable at the Department of Molecular Pharmacology, Albert Einstein College of Medicine, Bronx, New York. She was a visiting Researcher to the Federal University of Technology Akure, A.I. Virtenan Institute for Molecular Sciences, and Institute of Food Research (Instituto de Investigación en Ciencias de la Alimentación (CIAL, CSIC-UAM).

Profiling Endogenous and Recruited Brain Macrophages Following Acute Stroke

Matthew Pirie

The University of Edinburgh, UK

ABSTRACT:

Introduction: **Following acute ischemic stroke (AIS), a cascade of acute and chronic neuroinflammatory events occur at both local and distal regions - a response driven by endogenous and recruited brain macrophages. Prior studies depicting the long-term consequences of AIS havedemonstrated enhanced rates of both neurodegenerative and neuropsychiatric disorders – thought to be driven by distal macrophage activity. However, little is known about the temporal and spatial distributions of brain macrophage populations post-AIS, with such knowledge vital to identify treatment targets.**

Methods: **In this murine-based study, we initiallyemployed the use of flow cytometry and single-cell RNA sequencing to characterize changes in monocyte, monocyte-derived cells (MDCs), and microglial landscapes. Subsequently, the study employed immunohistochemistry to localise Iba1 (macrophage marker) and Ki67 (a marker of proliferation) within the tissue 3- and 7-days post-stroke.Finally, we employed the use of a novel fate-mapping model, we preliminarily differentiated between the distributions of each macrophage population at day-3 post-stroke**

Results: **Our results demonstrating that both microglia and MDCs increase in cell count following AIS. Whilst microglia undergo proliferation, the increase in MDCs is secondary to enhanced monocyte infiltration and differentiation only. Latterly, we demonstrated macrophage accumulation at both the infarct and tracts connected to the ischaemic region, thus highlighting the locations vulnerable to the global effects following AIS. Finaly, through the use of the fate-mapping model, we demonstrated that microglia are located both at the infarct and connected tracts, with MDMs restricted to the site of the infarct only.**

Conclusion: **As such, these findings advocate for future studies to experimental target microglia during the chronic phase of AIS, and subsequently develop therapeutics, to enhance patient outcomes and reduce healthcare burdens.**

BIOGRAPHY:

Matthew Pirie graduated The University of Edinburgh following his studies in Neuroscience. Through research with the UKDRI, he studied the post-ischemic macrophage landscape, and has shared this work at multiple national and international events. Since then, he has continued his studies and research in the university, and will graduate from the MBChB course in the next academic year. He has also contributed to the educational field as a curriculum developer, with an accredited certificate in medical education.

Octopaminergic Knockdown Interacts with Carbamazepine to Alter Sleep in Drosophila Melanogaster

Hashim Ghias and Christopher Vescey

Skidmore College, USA

ABSTRACT:

Octopamine, the invertebrate analog of norepinephrine, is a key neuromodulator regulating arousal and wakefulness in Drosophila melanogaster. It is synthesized from tyramine by tyramine -hydroxylase (TBH) in octopaminergic neurons. To investigate how reduced octopaminergic signaling interacts with altered neuronal excitability, we used the GAL4/UAS system to drive RNAi-mediated knockdown of TBH in TDC2-positive neurons (TDC2>TBH-RNAi). Driver-alone and RNAi-alone controls were included to assess genetic specificity.

Adult F1 flies were monitored using Drosophila Activity Monitors under 12:12 light–dark (LD) cycles and constant darkness (DD). Sleep was defined as periods of ≥5 minutes of inactivity and analyzed using SCAMP software. Flies were maintained on standard food or food supplemented with carbamazepine (CBZ; 0.8 mg/mL), a sodium channel blocker known to influence sleep behavior.

TDC2>TBH-RNAi flies exhibited reduced total sleep relative to controls, consistent with disruption of octopaminergic tone. CBZ treatment further reduced sleep in both LD and DD conditions, suggesting an interaction between monoaminergic signaling and sodium channel modulation. Persistence of the phenotype in constant darkness indicates that these effects are not solely driven by external light cues. Some variability was observed across sexes, suggesting possible background-dependent influences.

Together, these findings demonstrate that octopamine synthesis within TDC2-positive neurons functionally interacts with intrinsic excitability mechanisms to regulate sleep architecture in Drosophila.

BIOGRAPHY:

Hashim Ghias is a neuroscience student at Skidmore College with an interdisciplinary background in human physiology and molecular neuroscience. His research focuses on sleep neurobiology, cardiovascular physiology, and neural circuit modulation, including studies using Drosophila models and human dietary interventions. He also serves as a teaching assistant and peer academic coach, with a strong interest in advancing the understanding of brain–body interactions and human health.

Role of Osteocalcin inMaintaining Blood Brain Barrier Integrity and Preventing Neuroinflammation in Alzheimer`s Disease.

Rakhi Panwar, Sarika Gupta*

BRIC-National Institute of Immunology, Aruna Asaf Ali Marg, New Delhi, India

ABSTRACT:

The blood–brain barrier (BBB) is a highly selective endothelial interface that separates the circulating blood from the brain parenchyma, maintaining the CNS microenvironment essential for proper neuronal signalling, synaptic function, and neuroprotection. The disruption of the blood-brain barrier (BBB) is a central event in the pathology of many neurological and chronic disorders, including Alzheimer's disease (AD).Despite its critical role, there is currently no safe and effective treatment to prevent or repair BBB damage, whereas significant work development has been made in developing agents which can further breach this barrier to aid drug delivery often overlooking the potentially deleterious consequences of such approaches. The fundamental questions which remain largely unaddressed are what endogenous signal maintains BBB integrity, how the BBB repair is induced. One of the primary challenges in developing effective therapeutics for neurological disorders lies in the inability of most drugs to cross the blood-brain barrier (BBB). Our study established a novel therapeutic avenue by emphasizing the underexplored role of the bone derived peptide Osteocalcin (OC). OC levels decline with age and poor bone health, correlating with increased BBB breach. Specifically, we demonstrate how osteocalcin exerts its protective effects, not by breaching the BBB, but by leveraging endogenous systems—particularly the bone-brain communication pathways—to preserve BBB integrity and modulate neuroinflammation. We have shown that how the peptide is modulating the activity of innate immune cells (microglia and astrocyte) and providing a healthy environment which favours tissue repair and resolution of inflammation.We observed age-dependent changes in BBB function, cognition, and bone health in AD mouse models. Further investigation showed that OC treatment reduced the level of insoluble A□42 and increased the level of soluble A□42 in the mouse brain. In addition, OC-treated AD transgenic mice exhibited elevated mRNA levels of CD36, along with upregulation of neuroprotective genes such as Adipoq and Ahsg (fetuin). Mechanistic studies revealed that un-carboxylated osteocalcin (uOC) interacts with the glutamate residues of A□42 to form non-toxic, early tube-like intermediates (the A–O complex) prior to the formation of mature A□42 fibrils. This complex acts as a non-toxic immunomodulator that inhibits TNF-□ production and increases the cell surface expression of CD36, CD11b, and MHC-II in glial cells, thereby facilitating A□42 clearance. Remarkably, OC treatment not only improved cognitive and skeletal outcomes but also restored BBB integrity, and protected the brain from acute LPS-induced shock (sepsis model).Long-term OC therapy maintains BBB function and supports neurogenesis, attenuatingpathology even after cessation of treatment.This work highlights a novel bone-brain axis essential for maintaining brain homeostasis.

Keywords*: *Blood Brain Barrier; Alzheimer's Disease; Therapeutics; Neuroinflammation

BIOGRAPHY:

Rakhi Panwar is a PhD scholar at the National Institute of Immunology (NII), New Delhi, specialising in Neuroscience and Immunology. A Gold Medalist in her Bachelors and Masters in Zoology, and qualified in CSIR-UGC NET (AIR 34) and GATE (AIR 56). Her research focuses on understanding the blood–brain barrier in neurodegenerative disease models, integrating molecular and cellular approaches to study neuroimmune mechanisms. She has co-authored a review on the role of gut microbiota-derived metabolites in neurological disorders and has hands-on experience in confocal imaging, animal experimentation and biochemical techniques. Her work aims to advance insights into neuroimmune interactions and the molecular mechanisms underlying neurological diseases.

Approach of a Patient with Multiple Sclerosis and Urinary Incontinence with the Clinical Pilates Method: A Narrative Review and Case Study

Paraskevi Stavrianou1*

1Department of Physiotherapy, University of West Attica, Aigaleo, Athens, Greece

ABSTRACT:

Introduction: Urinary Incontinence (UI) can occur in many patients with Multiple Sclerosis (MS) creating adverse conditions. In this paper, the focus is on the treating of UI in MS patients with the Clinical Pilates method, which is a modification of the classic Pilates.

Materials and Methods Review: The literature from 1st January of 2010 to 30th September of 2021 was reviewed. Case Study: Clinical Pilates sessions were performed in a female patient, 57 years old, diagnosed with bilateral Cerebellar - Ataxic impairment in the spectrum of MS, with UI symptoms. The intervention program lasted 4 weeks.

Results Review: A total of 19 articles were collected. No review or study has been found to examine the effect of Clinical Pilates, or even of classic Pilates method, on a patient with MS and UI, simultaneously.

Case Study: The score of the "Australian Pelvic Floor Questionnaire" and the score of the "ICQSF", after the Clinical Pilates program completed, decreased showing a slight improvement of symptoms.

Conclusions: The Clinical Pilates method seems to be a satisfactory tool in the physiotherapist's ''quiver''. However, further studies are needed with a complete methodology, which will focus on patients with MS and UI as parameters in the same research.

Keywords*: *Urinary Incontinence; LUTS; Multiple Sclerosis; Clinical Pilates

BIOGRAPHY:

Knowing from a young age that she wanted to pursue physiotherapy at both a professional and scientific level, Paraskevi Stavrianou set her goal to study at the Department of Physiotherapy, University of West Attica (formerly Higher Education Institute of Athens). She began gaining clinical experience early with real patients, while seminars and postgraduate programs helped build a strong foundation in musculoskeletal, neurological, and cardiorespiratory rehabilitation.

She believes each patient should be treated individually and holistically, based on current clinical guidelines and an evidence-based approach. Also that optimal rehabilitation often requires a multidisciplinary plan, involving communication and collaboration with healthcare professionals from different fields, respecting each patient's individuality and self-determination.

Her interest in understanding how the human brain functions, how it responds to sensory and motor dysfunctions, and, most important, how it processes pain continues to grow, remaining at the core of her scientific focus. This combination of clinical experience and research interest drives her commitment to advancing helping patients through physiotherapy both professionally and academically.

RNA Biodistribution to Brain and Bones

Nagy Habib

1Department of Surgery & Cancer, Imperial College London, London, United Kingdom

ABSTRACT:

- The use of transferrin receptor ligand aptamer to target the brain in-vivo
- Widespread expression in the deep parts of the brain
- How to target cartilage and bone for rare and acquired diseases
- A new approach for cell longevity.

BIOGRAPHY:

Dr. Nagy Habib for over three decades Nagy has been at the forefront of clinical research and clinical practice in cancer. He pioneered the first clinical trial in the use of adenovirus and plasmid for the treatment of liver cancer, as well as the use of plasmid gene therapy in hydrodynamic gene delivery.

Nagy is a founder and was the Head of R&D of MiNA Therapeutics. Whilst at MiNA he was driving the development of an saRNA drug (a new class of medicines) which is currently being trialled in patients with liver cancer in eight UK centres, and sites in Singapore and Taiwan (OUTREACH study, ClinicalTrials.gov ID NCT02716012) and in a second trial in patients with solid tumours (TIMEPOINT study, ClinicalTrials.gov ID NCT 04105335) in the UK, USA, Europe, Singapore and Taiwan.

He has published widely in gene therapy, stem cell therapy, oligonucleotides, endoscopy and surgery. Currently he is the CEO of Apterna Limited, a company focussed on novel oligonucleotide deliver. Previously Nagy was founder and Chairman of EMcision Limited (acquired by Boston Scientific Inc in 2018).

Parkinson's Disease (PD): Allogeneic Cell Replacement Therapeutic Approach with a Novel Neural Cell Line

Ashok Chakraborty

Allexcel, Inc, USA

ABSTRACT:

Parkinson's disease is caused by the progressive impairment or deterioration of neurons (nerve cells) in an area of the brain known as Substantia Nigra. Loss of Dopaminergic cells causes PD. Current therapies are based on dopamine supplementation in the brain. They are only palliative, and require adjunct therapies to minimize side effects. Yet long term side effects such as motor neuron defect and Bradykinesia, Dyskinesia etc. occur. Cell Replacement Therapy is the Only Approach that Promises Functional Reversal of Parkinson's disease. AllExcel, Inc. has Developed a Platform Technology for Developing Designed, Functionally Improved Cell Lines without the use of viral vectors or DNA manipulation. Technology is based on concepts derived from naturally observed Human Cell-Cell Interactions (CCITM). Fast growing potent Dopaminergic cell lines have been produced with long survival in cell culture. In animal studies (6-OHDA treated Rat model for PD), 4 different clones showed very effective reversal of the disease. Highly potent modified neural cells have been produced in our lab to treat PD patients.

Keywords*: *Parkinson's disease, Neural cells. Dopamine, Cell-cell interaction,

BIOGRAPHY:

Professor Ashok K. Chakraborty, PhD, has been included in Marquis Who's Who. As in all Marquis Who's Who biographical volumes, individuals profiled are selected on the basis of current reference value. Factors such as position, noteworthy accomplishments, visibility, and prominence in a field are all taken into account during the selection process.

After earning a Bachelor of Science from the University of Calcutta (India), Dr. Chakraborty earned a master's degree from the same institution. He subsequently received a PhD in Pigment Cell Biology, breast cancer, and melanoma metastasis research through the University of Calcutta in 1980. Over the course of his career, he parlayed his expertise to others as an invited lecturer at Japanese universities (Kobe), and as a research scientist and associate professor at Yale University, where he worked between 1989 and 2014 on Melanoma Biology, Pigment Cell Biology and Breast Cancer Drug Discovery.
Supported by his extensive experience, Dr. Chakraborty presently excels as a senior research analyst for AllExcel Inc. Over the years, he has contributed to more than 130 publications, including in Cancer Drug Discovery, Virology, and Neuro-degenerative diseases. He has published his work in peer-reviewed medical journals of the American Association for Cancer Research, Melanoma Research and Breast Cancer Research and Treatment, Elsevier Publications, PLoS one, and in Nature.

In order to remain aware of changes in the field, Dr. Chakraborty is affiliated with the Pan-American Society and the Dermatological Society and American Cancer Society. He is also the regular reviewer of several science journals, and in the Editorial Board of various peer-reviewed journals. While his career has been filled with highlights, he is most proud to have joined AllExcel, where he is working on neurodegenerative diseases, including Parkinson's Disease and Alzheimer's Disease, and also drug discovery for COVID-19, and Cancer. Since joining the organization, he has reprogrammed neural stem cells non-genetically and transplanted them into a rat PD model, which helped to revert disease symptoms and cognition defects. In the wake of the COVID-19 pandemic, he also began working on a new polymer-based nano-micelles antiviral regiment, which showed its dual activity to combat disease. Most of these works were already published as a Review and/or as a Research article in more than 20 peer-reviewed journals including Frontiers, Elsevier Publications.

Besides the above he is also teaching Chemistry of Nutrition as a Professor of Chemistry at the Sacred heart University. He has already published 20 papers on Nutrition and its Importance on disease management.
Looking toward the future, Dr. Chakraborty intends to conduct a clinical trial for a Parkinson's disease treatment, as well as macrophage polarization for cancer treatment.

A Hidden Epidemic: Complications of Insufficient Feeding in Term Breastfed Neonates

Christie del Castillo-Hegyi, MD

Fed Is Best Foundation, CHI St. Vincent Little Rock, USA

ABSTRACT:

Medical complications of insufficientfeeding in breastfed newborns, namely jaundice, dehydration, and hypoglycemia, have steadily increased in incidence—an unintended consequence of efforts to promote exclusive breastfeeding before hospital discharge, a key metric of the Baby-Friendly Hospital Initiative. This lecture reviews the case of a term newborn infant who had evidence of poor intake while exclusively breastfeeding during his hospital stay that were not recognized by his health providers. The infant was discharged home and was subsequently found to be in cardiac arrest 12 hours after hospital discharge due to hypernatremic dehydration. Although he was resuscitated and placed on life support, he ultimately died at 19 days of age due to extensive brain injury from hypernatremic dehydrationleading to hypoxic-ischemic encephalopathyand cardiac arrest. This lecture highlights multiple pitfalls of current perceptions of normal vs. abnormal newborn feeding behavior, weight loss percentages, elimination patterns, and clinical thresholds widely believed to be safe for neonates. It discusses newer data showing how common insufficient feeding complications occur in term breastfed newborns even at weight loss percentages previously deemed normal by most health professionals and hospital protocols. It also reviews newer data on the clinical and laboratorythresholds at which neonatal brain injury, developmental delays, andpermanent disabilities occur. Lastly, this lecture reviews in-hospital strategies to monitor and prevent excessive weight loss and other comorbid conditions in response to signs of inadequate newborn feeding that have the potential to prevent extended and repeat admissions, neonatal brain injury, long-term disability, and rare deaths.

BIOGRAPHY:

Dr. Christie del Castillo-Hegyi is an American board-certified emergency physician who obtained her medical degree from University of California, San Francisco and completed her residency training in emergency medicine at the University of New Mexico, U.S.A. She is a cofounder of the Fed Is Best Foundation, a non-profit organization dedicated to advocating for hospital and global health policy reforms on infant feeding management and providing parent and health professional education to prevent complications of insufficient infant feeding that result in brain injury, neurodevelopmental delays, disabilities, and rare deaths. She is a member of the Global Development Disability Research Collaborators and has co-authored papers on hypernatremic dehydration and the global rise in childhood disabilities.

Neuroscience, Neurology, Brain Disorder and Management through Nutrition

Dr. Smita Guha

St. John's University, USA

ABSTRACT:

All over the world millions of people are the victims of various mental health disorders.Anxiety disorder is one of the most common mental disorder. About 301 million people globally suffer from these. In US, the numbers of victims from the mental illness are increasing, and the psychotherapy or applied psycho-pharmacotherapy always may not be effective in curing the issues.Therefore, other therapeutic and/or management interventions are receiving increasing attention to bring the comfort of the issues. In recent years, there has been a dramatic increase in nutrition research to examine any effects on mental abnormalities. This presentation would highlight experimental evidence to support how diet affects the wellbeing of the mental health, in normal and in abnormal conditions.

Keywords*: *Neuroscience, Neurology, Brain Disorder, Nutrition

BIOGRAPHY:

Dr. Smita Guha is a tenured and Full professor at St. John's University in the School of Education. She is the Chairperson of the Department of Curriculum and Instruction. Dr. Smita Guha received her Ph.D. from State University of New York at Buffalo. Her research is preparing teachers for childhood and early childhood education, in STEM education. Dr. Guha has written three booksToday's Youth, Tomorrow's Leaders, Healthy Children and Teacher as Researcher published by a national publisher, Rowman and Littlefield. Her fourth book, Critical literacy for socio-emotional learning: Empowering teachers to write children's literature is in print. She has contributed a chapter, Food Insecurity and Literacy Learning in a book Poverty Impacts on Literacy, and another book chapter on the topic of food science on antimicrobial activity and stopping of food spoilage, published by Springer Nature. Forty-five of her articles have been published in different scholarly journals and have received numerous citations. She has presented in more than 60 times at numerous international, national, state and regional conferences. She has received grants including NSF grant and has worked with several underprivileged mothers and children living in homeless shelters.Among the recent awards, in 2025, she received 2025 Faculty Leadership and Service award, St. John's University, Proclamation from The Assembly State of New York, Citation from New York State assembly as outstanding individual and Fulbright US Scholar award: Academic and Professional Excellence Fellowship. In 2023 she received the Citation from Nassau County, State of New York.

Rewiring the Mind: Integrative Approaches to Brain Health Using qEEG, Neurofeedback, Hypnosis, and Coaching

Farah Qureshi

Founder & CEO - Neuroconsulting, Denmark

ABSTRACT:

In an era where mental well-being and cognitive performance are increasingly challenged by stress, trauma, and lifestyle demands, a multidimensional approach to brain health is essential.

This presentation explores how quantitative electroencephalography (qEEG) and neurofeedback can be combined with hypnosis and neuroscience-based coaching to promote measurable, lasting change in brain function and behavior.

Drawing on real-world case applications, we will examine how qEEG provides a detailed neural map to identify dysregulation patterns, enabling targeted neurofeedback protocols that retrain the brain toward optimal functioning. Hypnosis will be presented as a complementary tool to access subconscious processes, accelerate emotional regulation, and reinforce neuroplastic changes. Neuroscience-informed coaching techniques will then bridge these modalities, helping clients integrate new neural patterns into daily habits, mindset shifts, and long-term resilience. Attendees will gain insight into the science behind these interventions, their synergistic potential, and practical strategies for application across clinical, performance, and personal growth contexts.

By uniting advanced neurotechnology with evidence-based psychological tools, this approach empowers individuals to move beyond symptom management and toward thriving, self-directed lives.

BIOGRAPHY:

Mrs. Farah Qureshi is a neuroscientist specialising in brain health, nervous system regulation, and subconscious change. My work integrates qEEG brain mapping, neurofeedback, hypnosis, and neuroscience-based coaching to support measurable and lasting improvements in emotional regulation, cognitive performance, sleep, and resilience. Using data-driven insight alongside trauma-informed approaches, I help clients move beyond symptom management by understanding how their brain functions and how it can be retrained. My approach prioritises safety, regulation, and integration—allowing meaningful change to occur without overwhelm. I work across clinical, performance, and personal development contexts, supporting individuals to restore balance, build self-regulation, and create sustainable change in daily life.

Epigenetic Reprogramming in Addictionand Neurobiological Impairment

Elif Sibel Aslan

Biruni University, Department of Molecular Biology and Genetics, Istanbul/TürkiyeLondon Metropolitan University, School of Human Sciences, London/UK

ABSTRACT:

Addiction is a chronic brain disorder characterized by persistent neurobiological and neurofunctional impairment driven, in part, by epigenetic reprogramming. Repeated drug exposure and environmental stressors induce lasting epigenetic signatures—including DNA methylation, histone modifications, chromatin remodeling, and non-coding RNA regulation—in key reward-related brain regions such as the nucleus accumbens and prefrontal cortex. These reversible yet stable modifications alter gene expression related to synaptic plasticity, reward processing, and executive control, creating a molecular memory that sustains compulsive behaviour and relapse vulnerability.

Evidence indicates that factors such as ΔFosB accumulation, chromatin remodeling, and region-specific methylation changes contribute to long-term neuronal reprogramming and impaired cognitive and emotional regulation. Environmental influences, including early-life stress and social context, further shape epigenetic susceptibility and accelerate neurofunctional decline. Given the dynamic and potentially reversible nature of epigenetic marks, emerging therapeutic strategies targeting epigenetic mechanisms offer promising avenues for restoring brain function and improving treatment outcomes in addiction.

Keywords*: *Addiction; Epigenetic reprogramming; Neurofunctional impairment; DNA methylation; Histone modifications; Chromatin remodeling; ΔFosB; Neuroplasticity

BIOGRAPHY:

Assoc. Prof. Elif Sibel Aslan graduated from the Department of Biology at Erciyes University, Türkiye. She obtained her Master's degree in Applied Microbiology from the University of Westminster, London, UK, and completed her PhD at London Metropolitan University, London, UK, where her doctoral research focused on iron deficiency anemia. During her PhD, she also undertook teaching responsibilities and contributed to academic activities at the same institution. She is currently a Visiting Scientist at London Metropolitan University, contributing to an ongoing research project. Since 2014, Dr. Aslan has been a faculty member at Biruni University, Faculty of Engineering and Natural Sciences, Department of Molecular Biology and Genetics. She currently serves as Vice Dean of the Faculty. She has also held several academic leadership roles, including Chair of the Department of Molecular Biology and Genetics and Head of the Molecular and Medical Genetics graduate programs at the Master's and PhD levels. She was awarded the title of Associate Professor in Medical Biology on July 25, 2025. Her research interests include epigenetics, nutrigenomics, molecular biology, and cell biology, with a particular emphasis on gene–environment interactions and translational biomedical research. She maintains an active research profile through national and international collaborations, participation in scientific conferences, and authorship of peer-reviewed publications. She is married and the mother of twin daughters.

The Insulin-Resistant Brain: How Metabolic Dysfunction Drives Neurological Disease

Ms. Tanzila Shaikha

Metabolic Health Educator – HijabiHealth, UK

ABSTRACT:

Emerging evidence suggests that insulin resistance is not only a metabolic disorder but also a critical driver of neurological dysfunction. The brain, as one of the most energy-demanding organs, relies heavily on efficient glucose metabolism and insulin signaling to maintain neuronal health, synaptic plasticity, and cognitive performance. When insulin resistance develops, impaired neuronal glucose uptake, mitochondrial dysfunction, and chronic neuroinflammation can initiate processes linked to cognitive decline, mood disorders, and neurodegenerative disease. This presentation explores the concept of the "insulin-resistant brain" and its role in conditions such as Alzheimer's disease, dementia, depression, and metabolic-associated cognitive impairment. Particular attention will be given to the heightened vulnerability observed in women with metabolic disorders, including PCOS, insulin resistance, and menopausal metabolic shifts.

By integrating insights from endocrinology, neurology, and metabolic medicine, this talk proposes a preventive framework in which early identification and correction of metabolic dysfunction may significantly alter the trajectory of neurological disease. This paradigm encourages clinicians and researchers to view brain health through a metabolic lens and highlights the urgent need for interdisciplinary approaches to prevention and treatment.

BIOGRAPHY:

Tanzila Shaikha is a metabolic health practitioner, speaker, and educator specialising in insulin resistance, hormonal dysfunction, and chronic metabolic disease in women. Her work focuses on the intersection between metabolism, endocrine health, and long-term disease prevention, with particular expertise in conditions such as PCOS, type 2 diabetes, fatty liver, and obesity.

Through her clinical education platforms and speaking engagements, she translates complex metabolic science into practical prevention strategies, helping individuals and healthcare professionals better understand the systemic impact of insulin resistance on hormonal, cardiovascular, and neurological health. Her approach emphasises early metabolic intervention as a cornerstone for preventing chronic disease and improving quality of life. She is passionate about advancing awareness of the of their long-term health outcomes.

When Microbes Speak, the Brain Listens: How Dietary Sugars and Sweeteners Rewire Gut Microbial Signalling and Mental Health

Alexia Gabriela Ancuta

School of Medicine, UCLan, UK

ABSTRACT:

The gut microbiota is increasingly recognised as a neurobiological organ whose metabolic outputs influence synaptic transmission, neuroimmune homeostasis, and stress-responsive circuitry. Dietary exposures are primary ecological pressures shaping this neuroactive ecosystem. This study investigates how 2% glucose, fructose, and saccharin modulate Escherichia coli K12 growth dynamics, providing a reductionist model to probe how substrate-specific microbial activity may recalibrate signalling along the gut–brain axis.

A preliminary optimisation established 2% glucose as the condition supporting maximal exponential growth. Under these controlled parameters, glucose and fructose drove vigorous microbial proliferation, reflecting efficient carbon assimilation and high metabolic flux. Accelerated growth is mechanistically important: increased biomass enhances production of neuroactive mediators—including short-chain fatty acids, indole derivatives, lactate, and serotonin precursors—that modulate vagal afferent excitability, microglial priming, blood–brain barrier integrity, and hypothalamic–pituitary–adrenal axis sensitivity. Fructose supported a marginally steeper growth trajectory, suggesting substrate-specific metabolic signatures that may translate into differential neuromodulatory profiles. In contrast, saccharin—non-caloric and non-metabolizable—failed to sustain meaningful proliferation and exhibited bacteriostatic effects with markedly reduced colony-forming units. Such suppression may attenuate beneficial microbial signalling and favour dysbiosis patterns linked to affective dysregulation, heightened stress reactivity, and impaired cognitive performance.

These findings demonstrate that dietary sugars and artificial sweeteners exert biologically divergent effects on microbial signalling capacity. By modulating the intensity and quality of microbial metabolites that interface with neural circuits, everyday nutritional exposures act as upstream regulators of neuroimmune tone and mental health vulnerability. This mechanistic insight underscores the need to integrate microbiome-responsive dietary strategies into future neuropsychiatric frameworks.

Keywords*: *Gut–brain axis; Neuroactive metabolites; Microbial signaling

BIOGRAPHY:

Alexia Gabriela Ancuta is a first-year MBBS student at UCLan, UK, distinguished by her strong academic interests in neuroscience, psychiatry, and mental health. A top graduate of International Baccalaureate Programme, she achieved an exceptional 44/45 points, placing her among the highest-performing students worldwide. Deeply committed to the neurosciences, Alexia has pursued elite international training experiences. She was selected for the Stanford University CNI-X Clinical Neuroscience Immersion Program, an advanced initiative hosted by the Department of Psychiatry and Behavioral Sciences at Stanford School of Medicine. Her early research engagement includes multiple peer-reviewed publications in the OxJournal (Oxford Scholastica), where she explored themes across psychology, cognitive neuroscience, and clinical medicine. Alexia has presented her work at several international academic forums, including the London International Youth Science Forum (LIYSF), the Stanford CNI-X Capstone Symposium, and Minds Matter – Exploring Innovations in Mental Health at the 10th MedEspera International Medical Congress, where she delivered insights on structuring clinical research in eating disorders. In recognition of her academic strength, Alexia also received an offer to study Neuroscience at University College London, one of the world's leading neuroscience institutions, yet chose Medicine to integrate neuroscience with hands-on clinical practice. Now advancing through her early clinical training, she maintains focused interests in neuroimmune interactions, psychiatric disorders, cognitive neuroscience, and mental health innovation. Alexia represents a promising next-generation clinician-scientist, committed to advancing integrated, brain-centered approaches to human health and bridging the gap between neuroscience research and clinical care.

Title: Report on Research ethics support practices in the National registry study of Alzheimer's disease

Fumie Arie1

Department of Clinical Research Support Clinical Research & Education Promotion Division
National Center of Neurology and Psychiatry, Japan

ABSTRACT:

While the development of disease-modifying drugs (DMTs) for Alzheimer's disease (AD) is progressing, there are also issues of adverse events in clinical trials and treatment. In order to manage such adverse events in the future and to improve the effectiveness of treatment, a clinical data base is needed.

Therefore, a study to establish a national clinical registry for AD was initiated in Japan.

There are many ethical issues that need to be considered, such as issues of informed consent (IC), the right of patients (research subjects) and their families to receive or not receive explanations about the results of genetic analysis, the establishment of a genetic counselling system, and the ideal research implementation system with collaborating companies and medical institutions. It is necessary to proceed with the registry research while respecting patient wishes and weighing the benefits and drawbacks to patients. However, this registry study faced particular challenges in addressing the following three issues: 1) "Consideration of the research institution's implementation structure and requests for cooperation from collaborating institutions and the details of such cooperation." 2) "IC methods in accordance with research guidelines." 3) "Policy for explaining (and returning) research results, including APOE measurement results and other incidental findings."

This report, based on my experience supporting the research in this registry study as an expert in research ethics, shares information about the content of support practices and ethical issues that need to be considered in the future.

Keywords*: *Alzheimer's disease; Disease Registry; Research ethics; Informed consent.

BIOGRAPHY:

Dr. Fumie Arie is a specially appointed professor at Yamanashi Prefectural University, and She provide support for research ethics through education, consultation, rule development, organizational frameworks, and other activities. She was the Chief of the Bioethics Office, Clinical Research Support Department, National Center of Neurology and Psychiatry (NCNP)Tokyo, Japan from 2019 to 2024, and currently She is a researcher in that department. Since April 2025.

Dr Arie studied ethical issues in organ transplantation during my graduate school master's program and received a master's degree in 2001. Following that, she continued to research on the ethical issues of organ transplantation at St. Luke's College of Nursing in Tokyo and received my Ph.D.

Her career in Bioethics began at the Center for Clinical Bioethics, Georgetown University as a researcher and a faculty member (2010-2013). And while in Georgetown University, she has completed Intensive Bioethics Courses at The Kennedy Institute of Ethics, Georgetown University. She was an associate professor, and was engaged in research ethics consulting at the Sophia University Institute of Bioethics.

Dr Arie was a technical advisor at the Bioethics and Safety Measures Office of the Life Science Division of the Ministry of Education, Culture, Sports, Science and Technology (MEXT), she was advising on the formulation of ethical guidelines for medical research from 2013 to 2024.

Assessment of Improved proprioception in Patients After Stroke

Oliwier Rachudała

Michalina Frankiewicz[1]), Klaudia Marek[2]), Elżbieta Miller[2])Neurorehabilitation Student Scientific Association, Medical University of Lodz, Poland

ABSTRACT:

Introduction: Stroke often leads to impaired proprioception and postural control, which results in asymmetric loading of the lower limbs and difficulty maintaining body balance in appropriate planes, which can lead to uncontrolled falls/injuries. Monitoring these parameters is crucial in assessing the effectiveness of rehabilitation [1,2].

Aims: To assess the improvement in proprioception in stroke patients during a two-week rehabilitation period in a neurological ward by analyzing the time it takes to maintain balance, the difference in pressure between the lower limbs, and the deviation of the center of gravity from the normal position [3].

Materials and Methods: Seventeen patients participated in the study (10 women, 7 men), with a mean time since stroke of 16 months and an average rehabilitation duration of 7 months. Measurements were taken twice, two weeks apart, during rehabilitation sessions on a neurological ward. Balance time increased from 15.4 s to 26 s, with a Cohen's d of 0.53, indicating a moderate improvement. Lower limb load asymmetry decreased from 19.7% to 10.1% (Cohen's d = -0.70), and center of gravity deviation decreased from 1.44 cm to 0.75 cm (Cohen's d = -0.68), both reflecting moderate-to-large functional effects. All effect sizes were above the practical significance threshold of d = 0.3, highlighting meaningful improvements.

Results: The mean balance maintenance time increased from 15.4 seconds to 26 seconds, indicating a clear improvement in patients' ability to maintain postural stability. At the same time, the mean difference in pressure between the lower limbs decreased from 19.7% to 10.1%, which suggests a more even distribution of body weight and better control of limb loading during standing.

Additionally, the deviation of the center of gravity decreased from 1.44 cm to 0.81 cm, reflecting improved postural stability and more effective control of body position in space. The obtained results clearly confirm that regular rehabilitation contributes significantly to the improvement of proprioception, that is, the ability to perceive the position of one's own body, as well as balance control in post-stroke patients. Systematic therapeutic exercises also promote greater symmetry in limb loading and reduce compensatory movement patterns.

Conclusions: The conclusions indicate that measuring the center of gravity, analyzing balance parameters, and assessing limb loading distribution constitute valuable and objective tools for monitoring therapeutic progress. These methods enable continuous evaluation of the effectiveness of rehabilitation programs, adjustment of exercises to individual patient needs, and precise tracking of changes occurring during the recovery process. Therefore, they can be successfully used as part of a comprehensive functional assessment in post-stroke rehabilitation.

Keywords*: *stroke, proprioception, balance, , center of gravity

BIOGRAPHY:

Oliwier Rachudała is a physiotherapy student and president of the largest student research group in the field of physiotherapy at the Faculty of Health Sciences – Neurorehabilitation Student Scientific Association, operating within the Department of Neurological Rehabilitation.

The group represents a leading center of student-led scientific activity in physiotherapy at the university, conducting research projects and initiatives at both national and international levels. He participated as a member of the research team in an international, multicenter scientific project conducted in cooperation between institutions in Poland and Japan entitled "iWakka-Vibe Based Vibration Therapy for Post Stroke Rehabilitation: A Multicenter Study

on Frequency Optimization. The project focused on evaluating the effectiveness and optimizing the parameters of vibration-based therapy in the neurorehabilitation of post-stroke patients.

He has presented research findings at numerous national and international scientific conferences, including the 17th Conference of the Polish Society of Physiotherapy, the largest and most prestigious scientific organization representing physiotherapy professionals in Poland. Additionally, he served as a co-organizer of the international scientific conference Japan–Poland 2025, dedicated to innovative technologies supporting rehabilitation and the development of modern medical services, providing a platform for scientific and clinical collaboration between Polish and Japanese institutions.

NeuroAI Fusion

Luiz Moutinho

University of Suffolk, UK

ABSTRACT:

The presentation will start by delving into the areas of Cognitive Neuroscience and Neurology, followed by Neuroinformatics, Neuroscience-Inspired AI and Computational Neuroscience. Brain- Computer Interfaces and Neural Decoding will be tackled next, as well as NS Data Repositories. The discussion will continue by introducing issues related to neuromorphic computing and Brain-Inspired Computing. Finally, the presentation will end by covering important concepts like , Brain Imaging, Next Gen MRI, Brain Stimulation , Neuromodulation and Neuroengineering .

BIOGRAPHY:

Professor Luiz Moutinho (BA, MA, PhD, MAE, FCIM) is Visiting Professor of Marketing at the Faculty of Arts, Business and Applied Social Science, University of Suffolk, Ipswich, UK. In 2020 he was elected a member of the Academia Europaea, and in 2017 he received the title of Professor Honoris Causa from the University of Tourism and Management Skopje, North Macedonia. In 2025 he was ranked among the top 85 of the 100 best scientists in Business and Management by Research.com and listed in the top 0.05% of global scholars in Marketing and Management by ScholarGPS. From 2015 to 2017, he served as Professor of BioMarketing and Futures Research at DCU Business School, Dublin City University—the world's first chair covering both fields. Prior to this, he held the Foundation Chair of Marketing at the Adam Smith Business School, University of Glasgow, for 20 years. He completed his PhD at the University of Sheffield in 1982 and has been a Full Professor for 36 years, with academic posts at Cardiff Business School, Cleveland State University, Northern Arizona University, and California State University. He has also held Visiting Professorships in China, Lithuania, Austria, New Zealand, Denmark, Slovenia, Portugal, Hungary, Taiwan, Brazil, Colombia, Fiji and Cyprus. Professor Moutinho directed doctoral programmes at the Confederation of Scottish Business Schools, Cardiff Business School, and the University of Glasgow. He is the Founding Editor-in-Chief of the Journal of Modelling in Management and Co-editor-in-Chief of Innovative Marketing, serving on the editorial boards of 47 journals. His research spans marketing futurecast, AI, biometrics, neuroscience, evolutionary algorithms, consumer behaviour modelling, and tourism futurecast. He has delivered keynote addresses in 64 countries and has published 41 books and over 163 refereed journal articles.

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