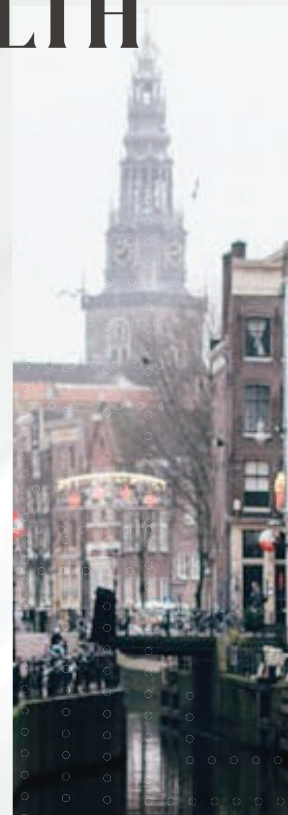
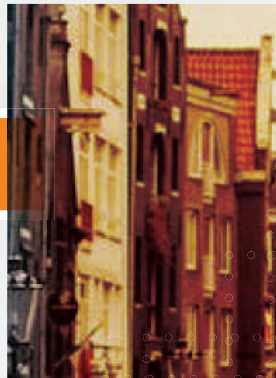


JOINT EVENT

# NEUROLOGY AND NEUROLOGICAL DISORDERS

&

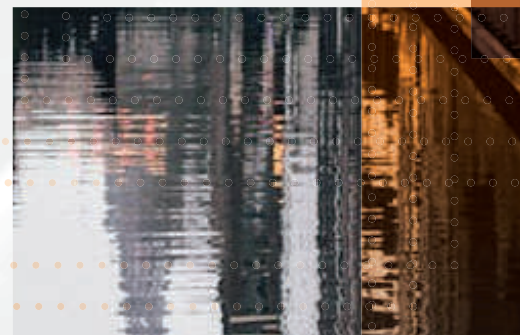
# ADVANCES IN ADDICTION MEDICINE AND MENTAL HEALTH



**2024**

June 25-26

Amsterdam, Netherlands





**PROGRAM-AT-A-GLANCE >>**

**YOUR FIRST CHOICE  
FOR RESEARCH  
INGENUITY**

**NEURO CONCLAVE 2024 & ADV. AMMH 2024**

# DAY 1

JUNE 25, 2024

# Scientific Program

08:30-09:15

**Registrations**

09:15-09:30

**Opening Ceremony**

**Moderator**

**Beverly Jean Bryant**, *American Academy of Child and Adolescent Psychiatry, USA*

**Chair**

**Hassan M. Heshmati**, *Endocrinology Metabolism Consulting, LLC, Hassan Heshmati and Valerie Shaw Endocrine Research, USA*

**Topics:** Neurology | Neurosurgery | Neuropsychiatry | Central Nervous System | Pediatric Neurology | Neurological Disorders | Sleep Disorders | Stroke | Movement Disorders | Parkinson's Disease | Epilepsy | Addiction Medicine | Addiction Rehabilitation | Addiction Psychiatry | Mental Health | Addiction Pharmacology | ADHD | Addictive Disorders | Alcoholism And Alcohol Abuse | Autism Spectrum Disorder (ASD) | Psychosomatic Medicine

## Distinguished Speaker Talks

09:30-09:55

**Title: Stress-induced endocrine and metabolic disorders**

**Hassan M. Heshmati**, *Endocrinology Metabolism Consulting, LLC, Hassan Heshmati and Valerie Shaw Endocrine Research, USA*

09:55-10:55  
**Workshop**

**Title: Finding the story**

**Evonne Kaplan-Liss**, *UC San Diego, Sanford Institute for Empathy and Compassion, Center for Compassionate Communication, USA*

**&**

**Val Lantz-Gefroh**, *UC San Diego, Sanford Institute for Empathy and Compassion, Center for Compassionate Communication, USA*

10:55-11:20

**Title: Trauma exposure in migrant children: Impact on sleep and acute treatment**

**Beverly Jean Bryant**, *American Academy of Child and Adolescent Psychiatry, USA*

**Group Photo 11:20-11:25**

**Refreshment Break 11:25-11:40**



11:40-12:05

**Title: Antibody-proteases as translational tools of the next step generation to be applied in personalized and precision neurology practice**

**Sergey Suchkov**, *The Russian University of Medicine and Russian Academy of Natural Sciences, Moscow, Russia*

12:05-12:30

**Title: Brain microvascular endothelial cells possess second cilium that arises from the daughter centriole**

**Ramani Ramchandran**, *Medical College of Wisconsin, USA*

12:30-12:55

**Title: Circuit formation and sensory perception in the mouse olfactory system**

**Hitoshi Sakano**, *University of Fukui, Japan*

12:55-13:20

**Title: A case series of manic delirium: Life saving treatment for patients in rural areas**

**Benjamin Kopec**, *Great Southern Mental Health Service, Australia*

**Group Photo 13:20-13:25**

**Lunch Break 13:25-14:05**

14:05-14:30

**Title: Human brain organoids as models of neural circuitry and neurological disorders**

**Abraam M Yakoub**, *Harvard Medical School, USA*

14:30-14:55

**Title: Thai Preschoolers' movement behaviors outside kindergarten: Prevalence of meeting individual and integrated movement guidelines**

**Vimolmas Tansathitaya**, *Mahidol University, Thailand*

14:55-15:20

**Title: Explore pharmacological research of Traditional Chinese medicine prescriptions for Alzheimer's disease based on interdisciplinary research**

**Shaowu Cheng**, *Hunan University of Chinese Medicine, China*

15:20-15:45

**Title: Study on the relationship between vertebrobasilar dolichoectasia and posterior cranial fossa space**

**Yao Xiaolong**, *The Third People's Hospital of Hubei Province, China*

15:45-16:10

**Title: Validation of self-efficacy questionnaire of online learning for students with disabilities in higher education**

**Tuba Gezer**, *The Ohio State University, USA*

**Refreshment Break 16:10-16:25**

16:25-16:50	<p><b>Title: Learning/recall mismatching combined with ketamine treatment alter methamphetamine memory magnitude and mPFC mGluR5 level</b></p> <p><b>Lung Yu</b>, <i>National Cheng Kung University College of Medicine, Taiwan</i></p>
16:50-17:15	<p><b>Title: Management of floating arm: A case report</b></p> <p><b>Nadia Zamani</b>, <i>Shahid Beheshti University of Medical Sciences, Iran</i></p>
17:15-17:40 Poster	<p><b>Title: Effects of pre-conditioning of endurance training with different intensities on the soleus muscle atrophy in a period of inactivity: The role of PGC-1<math>\alpha</math>4 gene</b></p> <p><b>Aram Asadi Karam</b>, <i>Shiraz University, Iran</i></p>
17:40-17:50 Poster	<p><b>Title: Cytoprotective effects of VANL-100 against oxidative stress and beta-amyloid-induced toxicity</b></p> <p><b>Andrila Collins</b>, <i>University of Guelph, Canada</i></p>
17:50-18:00 Poster	<p><b>Title: Surgical de-tethering of a type I split cord malformation: A 2-D operative video</b></p> <p><b>Jehan Bista</b>, <i>The University of Queensland – Ochsner Clinical School, USA</i></p>
18:00-18:10 Poster	<p><b>Title: A dynamic loss function for improved semantic segmentation</b></p> <p><b>Haroon Haider Khan</b>, <i>COMSATS University, Pakistan</i></p>
18:10-18:30	<p><b>Title: MTADV 5-MER peptide suppresses lung fibrosis, RA, IBD and MS mouse models and inhibits human fibroblasts biological functions by targeting SAA, which fuels fibrosis</b></p> <p><b>David Naor</b>, <i>The Hebrew University - Hadassah Medical School Jerusalem, Israel</i></p>
18:30-18:50	<p><b>Title: Understanding Executive Functioning (EF) deficits inherent in ADHD and Autism (ASD)</b></p> <p><b>Mary Hynes Danielak</b>, <i>The Counseling and Development Center Alpharetta, USA</i></p>
18:50-19:10	<p><b>Title: Balancing creative expression and societal well-being: A comprehensive regulatory framework for the Chinese Video Game Industry</b></p> <p><b>Zhaoxia Deng</b>, <i>Guangdong University of Foreign Studies, China</i></p>

**Panel Discussion**

**End of Day 1**



# DAY 2

JUNE 26, 2024

# Scientific Program

**Topics:** Neurology | Neurosurgery | Neuropsychiatry | Central Nervous System | Pediatric Neurology | Neurological Disorders | Sleep Disorders | Stroke | Movement Disorders | Parkinson's Disease | Epilepsy | Addiction Medicine | Addiction Rehabilitation | Addiction Psychiatry | Mental Health | Addiction Pharmacology | ADHD | Addictive Disorders | Alcoholism And Alcohol Abuse | Autism Spectrum Disorder (ASD) | Psychosomatic Medicine

## Distinguished Speaker Talks

09:30-09:55

**Title:** Dizzy patient in the emergency, should we call the neurologist?

**Nouini Adraa**, *Delta Hospital, Belgium*

09:55-10:20

**Title:** Driving assessment for persons with dementia: How and when?

**Lara Camilleri**, *Saint Vincent De Paul Long Term Care Facility, Malta*

10:20-10:45

**Title:** Sertraline associated with gold nanoparticles reduce cellular toxicity and induce sex-specific responses in behavior and neuroinflammation biomarkers in a mouse model of anxiety

**Helena Mendes Abelaira**, *University of Southern Santa Catarina (UNESC), Brazil*

10:45-11:10

**Title:** Prenatal diagnosis of fetal cortical developmental malformations using 3D-ICRV rendering technology

**Yimei Liao**, *Shenzhen Maternity & Child Healthcare Hospital, China*

11:10-11:35

**Title:** Hermann grid illusion fails to fool patients with schizophrenia: Experimental support for a reduced lateral inhibition hypothesis

**Mehrana Kanani**, *Shiraz University, Iran*

11:35-12:00

**Title:** Genetic etiology and prognosis of fetuses with lateral fissure angle  $<0^\circ$  on transthalamic plane

**Qing Zeng**, *Shenzhen Maternity and Child Healthcare Hospital, China*

## Panel Discussion

## End of Day 2



**DAY 2**

JUNE 26, 2024

**Scientific**  
P r o g r a m

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**BOOKMARK  
YOUR DATES**

**6<sup>th</sup> Global Conclave on  
Neurology and  
Neurological Disorders**

**3rd Global Congress on  
Advances in Addiction Medicine  
and Mental Health**

**June 2025 | USA**



**DISTINGUISHED SPEAKER TALKS**

**DAY 1**

*Joint Event*

**NEUROLOGY AND  
NEUROLOGICAL  
DISORDERS  
&  
ADVANCES IN  
ADDICTION MEDICINE  
AND MENTAL HEALTH**

**June 25-26, 2024  
Amsterdam, Netherlands**

**NEURO CONCLAVE 2024  
ADV. AMMH 2024**



## Stress-induced endocrine and metabolic disorders

### Hassan M. Heshmati

Endocrinology Metabolism Consulting, LLC, Hassan Heshmati and Valerie Shaw Endocrine Research, USA

**S**tress is a universal non-specific response to any pressure or demand. It is a condition caused by a stressor. In humans, the stressor can be a variety of factors (e.g., physical activity, extreme temperature, noise, workload, financial difficulties, violence, disease, and death of a loved one). Stress disturbs the equilibrium between the living organism and its environment. It is a challenging experience with multiple effects on the physiology and the behavior. Several factors including hormones are released during stress. The excess release of these factors can cause several endocrine and metabolic disorders. The hormones released during stress include corticotropin-releasing hormone, adrenocorticotrophic hormone, cortisol, growth hormone, vasopressin, and catecholamines. Studies have reported that subjects with Cushing's disease, hyperprolactinemia, and Graves' disease have been exposed more to stressful life events than their matched controls. Stress in early life may be a risk factor for the development of type 1 diabetes. Gonadal function can also be impacted by stress resulting in oligospermia and impotence in males and anovulation and amenorrhea in females. Through multiple and complex biochemical changes, stress can induce abnormalities in food intake behavior and fat storage, causing weight changes (e.g., weight gain or weight loss). The weight gain may ultimately lead to obesity. A better understanding of the stressors and the implementation of an efficient program to decrease their incidence may prevent the occurrence of stress-related endocrine and metabolic disorders.

### Biography

Hassan M. Heshmati, Medical Doctor, Endocrinologist, has 47 years of experience in clinical research in both Academia (University-Affiliated Hospitals, Paris, France and Mayo Foundation, Rochester, MN, USA) and Pharmaceutical/Biotech Companies (Sanofi, Malvern, PA, USA, Essentialis, Carlsbad, CA, USA, and Gelesis, Boston, MA, USA). His research activity has been related to pituitary tumor, hyperthyroidism, thyroid cancer, osteoporosis, diabetes, and obesity. He has extensive knowledge in the development of anti-obesity products. He is the author of 319 abstracts, book chapters, and articles related to Endocrinology and Metabolism. Currently, he is Consultant at Endocrinology Metabolism Consulting, LLC, Hassan Heshmati and Valerie Shaw Endocrine Research, Anthem, AZ, USA.

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### Finding the story



## Workshop

**Evonne Kaplan-Liss and Val Lantz-Gefroh**

UC San Diego, Sanford Institute for Empathy and Compassion, Center for Compassionate Communication, USA

Story is the oldest known way of sharing knowledge and information and engages us in our collective humanity. In research settings, story brings meaning to complex ideas, making them feel palpable and connects us with our audience. Historically, the disciplines that take a research interest in the importance of narrative have been largely in fields like the philosophy of science/medicine, medical humanities, and sociology though story is “always already” a part of scientific research. Humanities have gained traction in medical and science education, and researchers are seeking such curricula to communicate more effectively with the public and their students. We believe that story is an effective tool to enable investigators to be effective educators and communicators. Story-based interdisciplinary pedagogy emphasizes an approach encouraging clinical researchers to keep the human story as the driving force of research design, dissemination, and application of research to diverse audiences. In this workshop, we provide tools and methods used to draft effective stories to engage lay audiences as well as a tool researchers can use to incorporate the structure of story into their own work.

This 90-minute session will help you craft a story about your research that can be used as a model for longer or shorter presentations to a variety of audiences, including leaders, funders, the media, and the public. We recommend you come to this session prepared with a topic that you hope to communicate. For more detail on this topic, we welcome you to read our article, Finding the Story. (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8922292/>)

By the end of this session, you can expect to:

- Appreciate the research that reinforces the use of story as an impactful communication method
- Identify the message that will most effectively impact your audience

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- Prepare your message into a story structure
- Give and receive peer feedback

### Dr. Evonne Kaplan-Liss Biography

Dr. Kaplan-Liss is a national leader in communication training in medicine. Before coming to UC San Diego, she held the first dean-level position in a medical school, Burnett School of Medicine, with the mission to train Empathetic Scholars®. Dr. Kaplan-Liss came to TCU from the nationally acclaimed Alan Alda Center for Communicating Science, where she was the Founding Medical Program Director and trained thousands of physicians and medical students to communicate with empathy and clarity. Her life's work is dedicated to training healthcare providers, medical students, and researchers to communicate with compassion with their patients, colleagues from other disciplines, the community, the media, funders, benefactors, and policymakers.

As a former journalist and physician, Dr. Kaplan-Liss brings journalism and medicine to an interdisciplinary curriculum called The Compassionate Practice® that includes practices in theatre, narrative medicine, journalism, and public health. Her journalism career began when she graduated from Northwestern University's Medill School of Journalism in 1988 and landed her first job as a researcher for Ted Koppel's Nightline for ABC News. She left Nightline to pursue her interest in medical journalism, working as an associate producer and then segment producer on medical news for syndicated TV programs. Dr. Kaplan-Liss began her quest to combine her interests in journalism and medicine when she graduated from the Icahn School of Medicine at Mount Sinai. Dr. Kaplan-Liss did residencies in both pediatrics and preventive medicine and has a Master's in Public Health from Columbia University's Mailmen School of Public Health. She is board certified in pediatrics.

Evonne serves on the AAMC Fundamental Role in the Arts and Humanities in Medical Education Integration Committee, charged with setting the stage to incorporate the arts and humanities in medicine.

### Dr. Val Lantz-Gefroh Biography

Val is a professional actor, director, and teacher. She came to UC San Diego after serving as the Artistic Director of the Burnett School of Medicine in Fort Worth, TX. For the last decade she has created unique curricula based on theater practice and other disciplines to help healthcare providers, students and researchers connect and engage more effectively with their audiences.

As Artistic Director, she led the development of an innovative communication curriculum called The Compassionate Practice® to fulfill the mission of the school to train physicians to become Empathetic Scholars®. From 2009 to 2018, Val was the founding Improvisation Program Director at the Alan Alda Center for Communicating Science at Stony Brook University where her curriculum has been taught to over 15,000 undergrads, grad students, post-docs, faculty, senior researchers, business professionals, medical students, doctors, nurses, and Nobel Prize winners around the world.

Val's background as an actor began with training from the prestigious University of North Carolina School of the Arts. She has worked in professional theater for 30 years, and in her spare time, Val tours Standing in my Shoes, a one-woman story about her brother's death, to medical schools and hospitals to create conversations around empathy and resilience.

Val has worked as a consultant and mentor with business leaders, educators, and theater artists. Above all, she thinks of herself as a teacher. She loves working with students from all walks of life and helping them discover and hone their talents and their connections with themselves and their audiences.



## Trauma exposure in migrant children: Impact on sleep and acute treatment

**Beverly J. Bryant<sup>1,2</sup>**

<sup>1</sup>American Academy of Child and Adolescent Psychiatry, USA

<sup>2</sup>Talkiatry, USA

**Objectives:** Trauma-exposure significantly impacts sleep in children. Nightmares are common. Evidence-based therapies are superior to medications, but may not always be available in acute settings. No FDA approved medications exist for the treatment of trauma-related sleep disturbances in youth. Untreated sleep disturbances have been linked to suicidal and self-harm behaviors. Existing treatment options must be reviewed.

**Methods:** Relevant articles regarding the effects of trauma on sleep in children and some of the evidence base for pharmacological treatment interventions will be discussed.

**Results:** Regulation and calming techniques may be the most effective treatments of trauma-related sleep disturbances. The limited literature that exists for medication is based on case reports, retrospective chart reviews, clinician opinion and adult studies. The only prospective double blind study of sertraline as an adjunct to Trauma-Focused Cognitive Behavioral Therapy (TF-CBT) did not demonstrate significant benefit. Of all the agents studied, prazosin appears to have the best evidence for efficacy, although that evidence is limited. Child psychiatrists use medications such as melatonin, trazodone, guanfacine and clonidine for sleep disturbances in children, but the efficacy in treating PTSD nightmares is mixed. Medications such as quetiapine are considered effective by many psychiatrists, but the risks of metabolic syndrome and other side effects limit long-term use. Antihistamines have been used in acute settings, but some patients report a worsening of traumatic nightmares. Based on case reports cyproheptadine might be beneficial for traumatic nightmares.

**Conclusion:** Trauma exposure has a significant impact on sleep. Untreated sleep disorders in traumatized youth can increase the risk of suicide and self-harm. Regulation and calming techniques can be used in acute settings but TF-CBT may not be available. The evidence base for the use of medications is limited.

### Biography



Joint Event

# Neurology and Neurological Disorders



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Beverly J. Bryant is the current co-chair of the American Academy of Child and Adolescent Psychiatry's Committee on Child Maltreatment and Violence. She has also served as the Chair of the Psychiatry and Behavioral Medicine Department at the University of Texas at Tyler School of Medicine and as the program director for the Child and Adolescent Psychiatry Fellowship at the University of Mississippi Medical Center. Dr. Bryant completed her adult psychiatry residency at Mount Sinai Hospital in New York and her fellowship in Child and Adolescent Psychiatry at the Joint Yale Child Study Center/ Riverview Hospital program in New Haven, Connecticut. She is board certified in adult, child and adolescent psychiatry and has been in practice for over 30 years.



## Antibody-proteases as translational tools of the next step generation to be applied in personalized and precision neurology practice

Sergey Suchkov<sup>1,2,3</sup>, Aleks Gabibov<sup>4</sup> and Harry W. Schroeder<sup>5</sup>

<sup>1</sup>The Russian University of Medicine, Moscow, Russia

<sup>2</sup>Russian Academy of Natural Sciences, Moscow, Russia

<sup>3</sup>New York Academy of Sciences, USA

<sup>4</sup>Institute for Bioorganic Chemistry, Russian Academy of Sciences, Moscow, Russia

<sup>5</sup>Division of Clinical Immunology and Rheumatology, University of Alabama at Birmingham, USA

**B**iomarkers enable pre-early diagnosis, guide targeted therapy and monitor the activity and therapeutic responses across the diseases. Multiple sclerosis (MS) is just one of the chronic tissue-specific autoimmune diseases resulting in a destruction of myelin by different tools, including autoAbs of very broad specificity. Along with canonical Abs, some of the families proven to occur are Abs possessing with catalytic activity (**abzymes**), and thus to belong to Abs with functionality!

Abs against myelin basic protein/MBP endowing with proteolytic activity (**Ab-proteases with functionality**) are of great value to monitor demyelination to illustrate the evolution of MS. Anti-MBP autoAbs from MS patients and mice with EAE exhibited specific proteolytic cleavage of MBP which, in turn, markedly differed between: (i) MS patients and healthy controls; (ii) different clinical MS courses; (iii) EDSS scales of demyelination to correlate with the disability of MS patients to predict the transformation prior to changes of the clinical course.

Ab-mediated proteolysis of MBP was shown to be sequence-specific whilst demonstrating five sites of preferential proteolysis to be located within the immunodominant regions of MBP and to fall inside into 5 sequences fixed. Some of the latter (with the highest encephalitogenic properties) were proved to act as a specific inducer of EAE and to be attacked by the MBP-targeted Ab-proteases in MS patients with the most severe (progradient) clinical courses. The other ones whilst being less immunogenic happened to be EAE inducers very rare but were shown to be attacked by Ab-proteases in MS patients with moderate (remission-type) courses.

The activity of Ab-proteases was first registered at the subclinical stages 1-2 years prior to the clinical illness. About 24% of the direct MS-related relatives were seropositive for low-active Ab-proteases

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from which 22% of the seropositive relatives established were being monitored for 2 years whilst demonstrating a stable growth of the Ab-associated proteolytic activity. Moreover, some of the low-active Ab-proteases in persons at MS-related risks (at subclinical stages of MS), and primary clinical and MRT manifestations observed were coincided with the activity to have its mid-level reached. The activity of Ab-proteases in combination with the sequence-specificity would confirm a high subclinical and predictive (translational) value of the tools as applicable for personalized monitoring protocols.

Sequence-specific Ab-proteases have proved to be greatly informative and thus valuable biomarkers to monitor MS at both subclinical and clinical stages! And the translational potential of this knowledge is in the rational design of new diagnostic tools and new therapeutics based on principles of artificial biocatalysts and biodesign.

Ab-proteases can be programmed and re-programmed to suit the needs of the body metabolism or could be designed for the development of principally new catalysts with no natural counterparts. Of tremendous value in this sense are Ab-proteases directly affecting the physiologic remodelling of tissues with multilevel architectonics (for instance, myelin), whilst securing the requests and standards of regeneration and remyelination.

So, further studies on Ab-mediated MBP degradation and other targeted Ab-mediated proteolysis may provide biomarkers of newer generations and thus a supplementary tool for assessing the disease progression and predicting disability of the patients and persons-at-risks.

### Biography

Sergey Suchkov in 1980 graduated from Astrakhan State Medical University and was awarded with MD. In 1985, Suchkov maintained his PhD at the Sechenov University and Institute of Medical Enzymology. In 2001, Suchkov maintained his Doctor Degree at the National Institute of Immunology, Russia.

At present, Dr Sergey Suchkov, MD, PhD, is:

- Professor and Chair of the Dept for Personalized Medicine, Precision Nutriciology & Biodesign of the Institute for Biotech & Global Health of RosBioTech, and Profes-sor of the Dept of Clinical Immunology, A.I. Evdokimov Moscow State Medical and Dental University (MGMSU), Moscow, Russia
- Secretary General, United Cultural Convention (UCC), Cambridge, UK.

A member of the:

- New York Academy of Sciences, USA
- American Chemical Society (ACS), USA;
- American Heart Association (AHA), USA;
- European Association for Medical Education (AMEE), Dundee, UK;
- EPMA (European Association for Predictive, Preventive and Personalized Medicine), Brussels, EU;
- ARVO (American Association for Research in Vision and Ophthalmology);
- ISER (International Society for Eye Research);
- Personalized Medicine Coalition (PMC), Washington, DC, USA

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and Mental Health

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**Brain microvascular endothelial cells possess second cilium that arises from the daughter centriole****Ramani Ramchandran<sup>1</sup>, Karthikeyan Thirugnanam<sup>1</sup>, Ankan Gupta<sup>1</sup>, Francisco Nunez<sup>2</sup>, Shubhangi Prabhudesai<sup>1</sup>, Amy Y Pan<sup>1</sup> and Surya M. Nauli<sup>2</sup>**<sup>1</sup>Medical College of Wisconsin, USA<sup>2</sup>Chapman University, USA

Primary cilia are microtubule-based structures that are found in most eukaryotic cells and are specialized organelles that compartmentalize cell signaling molecules. In brain endothelial cells (ECs), cilia are blood flow sensors, and respond to flow by increasing intracellular calcium levels. In addition to flow sensing, endothelial cilia have also been suggested to promote vascular stability. To investigate endothelial cilia in brain ECs, we stained primary brain ECs for ciliary markers (ARL13B, IFT88) using immunofluorescent (IF) methods. We noticed that select brain ECs show two cilia phenotype, which is atypical, as most ECs have a single cilium. ECs isolated from multiple sources were stained for cilia, and this phenomenon of 2-cilia was observed in these cells. Indeed, previous investigations had observed multiple cilia in brain collateral vessels, suggesting that this phenotype is not a cell culture phenomenon. Further, cells in other organs such as pancreatic islet cells have multiple cilia. To determine the origin of the second cilium, we performed IF for centriole (CEP164, NINEIN, CENTRIN2 and HsAS) markers. Cilia arises from mother centriole, and each cell has one mother and one daughter centriole. Brain ECs with 2-cilia stained for two mother and two daughter centrioles. The cilium arising from mother centriole is bigger in size compared to cilium emerging from daughter centriole. Interestingly, the second cilium arises from the daughter centriole. Further, both cilium respond to growth factor (Platelet-derived growth factor-BB: PDGF-BB) treatment, which increases the length of cilia. Cell cycle analysis of brain microvascular ECs showed that 2-cilia phenotype is enriched in G<sub>0</sub>/G<sub>1</sub> phase of cell cycle. Our findings suggest that in addition to mother centriole, the daughter centriole also contributes to ciliogenesis in brain microvascular ECs.

**Biography**

Dr. Ramani Ramchandran received his BS and MS degrees from the University of Mumbai, India, followed by a Ph.D. degree at Augusta University, Augusta, Georgia. He then pursued post-doctoral fellowship at Beth Israel Deaconess Medical Center, Harvard Medical School. At Harvard, he developed his interest in translational

Joint Event

# Neurology and Neurological Disorders



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vascular biology. In 2002, upon receipt of the National Cancer Institute Scholar award, he started his first independent laboratory at the National Institutes of Health (NIH). In 2007, he joined the Medical College of Wisconsin where he currently is a tenured Professor. He directs an active Developmental Vascular Biology Research Program in Children's Wisconsin. His research program investigates fundamental questions related to blood vessel patterning using human cell culture, zebrafish, and mouse model systems. His group's work focuses on investigating the role of microtubule-organelle cilia in the vascular system.





### Circuit formation and sensory perception in the mouse olfactory system

#### Hitoshi Sakano

Department of Brain Function, School of Medical Sciences, University of Fukui, Japan

In the mouse olfactory system, odor information is converted to a topographic map of activated glomeruli in the olfactory bulb. Although the arrangement of glomeruli is genetically determined, the glomerular structure is plastic and can be modified by environmental odor stimuli. If the pups are exposed to a particular odorant, responding glomeruli become larger recruiting the dendrites of connecting projection neurons and interneurons. This imprinting not only increases the sensitivity to the exposed odor, but also imposes the positive quality on imprinted memory. External odor information represented as an odor map in the OB is transmitted to the olfactory cortex and amygdala for decision making to elicit emotional and behavioral outputs using two distinct neural pathways, innate and learned. Innate olfactory circuits start to work right after birth, whereas learned circuits become functional later on. In my presentation, I will summarize the recent progress in the study of olfactory circuit formation and odor perception in mice.

#### Biography

Dr. Sakano received his Ph.D. degree from Kyoto University in 1976. For his thesis work Dr. Sakano investigated tRNA processing by isolating the temperature-sensitive mutants of the ribozyme RNAase P in *E. coli*.

From 1978 to 1981, Dr. Sakano worked at Basel Institute for Immunology in Switzerland on immunoglobulin genes to solve the problem of antibody diversity. He published five *Nature* article papers providing the evidence for combinatorial and junctional diversification of antibody genes.

Dr. Sakano then moved to the University of California at Berkeley as Assistant Professor in 1982 and was promoted to tenured Full Professor in 1992. He relocated to University of Tokyo in 1994 changing his research field to Neuroscience.

Dr. Sakano is currently Professor Emeritus at University of Tokyo and Professor in Neuroscience at University of Fukui.



### A case series of manic delirium: Life saving treatment for patients in rural areas

**Benjamin Kopec** and **Kelly Ridley**

Great Southern Mental Health Service, Australia

**Introduction:** Manic delirium is an ill-defined, but serious diagnosis. It is a complex neuropsychiatric syndrome with considerable morbidity and mortality outlined by acute mania with features of delirium not otherwise precipitated by medical or neurological conditions. Presentations of manic delirium typically involve disturbances in thought, behaviour, orientation, memory, perception and consciousness, sometimes alongside catatonia and hyperadrenergic autonomic dysfunction with acute onset and rapid progression. There are no definitive guidelines for management of manic delirium. Research suggests electroconvulsive therapy (ECT) is the gold standard treatment, however this proves difficult in rural locations.

**Methods:** We describe the cases of four patients admitted to a rural inpatient psychiatric unit for treatment between October 2020 and May 2022. The criteria used to select these cases were (a) concurrent mania with delirium leading to hospital presentation, and (b) treatment requiring ECT.

**Results:** All four patients experienced symptoms of mania and delirium, complicated by urinary retention and reduced oral intake. Patients were initially treated with antipsychotic and/or benzodiazepine medication, although all patients experienced nil improvement or worsening of medical symptoms and delirium. All patients required ECT to effectively manage life-threatening symptoms. Symptoms of delirium resolved faster than mania with full resolution of manic delirium occurring within twelve sessions of ECT.

**Conclusion:** ECT was the definitive treatment in all cases following poor response to medication. Management options should be carefully considered early in a patient's presentation and access to ECT should be a priority for rural health services to provide gold standard, lifesaving treatment to patients with severe mental illness.

#### Biography

Dr. Kopec is a Psychiatry Registrar working with the North Metropolitan Health Service in Perth, Western Australia after previously working rurally in the Great Southern Mental Health Service in Albany. Born and raised in Western Australia, he enjoys surfing and adventure. He has worked in the field of Psychiatry and Addiction since 2020.



### Human brain organoids as models of neural circuitry and neurological disorders

#### Abraam M. Yakoub

Department of Medicine, and Division of Engineering-in-Medicine, Harvard Medical School,  
and Brigham and Women's Hospital, USA

Brain organoids are miniaturized 'human brains' differentiated from pluripotent stem cells. They represent a cutting-edge technology for modeling the human brain in a culture dish, overcoming the grand challenges of the difficult access to human brain tissue, or of animal models that do not faithfully recapitulate the 'human' disease. In this Talk, we will discuss recent advances in the brain organoids field, especially at the forefronts of reconstructing the human brain circuitry in organoids and harnessing the power of organoids to understand some brain and neurological conditions.

#### Biography

Prof. Abraam Yakoub, PharmD, PhD is an Assistant Professor of Medicine and of Engineering-in-Medicine (Bioengineering) at Harvard Medical School, and Brigham and Women's Hospital in Boston, Massachusetts, the United States. Prof. Yakoub is passionate about scientific innovation and overcoming grand problems in medicine. His laboratory leads an interdisciplinary research program focused on brain functions and diseases, including understanding virus-brain interactions in the pathogenesis of neurological conditions, developing gene therapies for brain diseases, and other topics in basic and disease neuroscience. The Yakoub laboratory uses cutting-edge technologies and model systems, including genetically engineered mouse models and *in-vivo* neuroscience approaches, human brain organoids, synthetic biology, and virus and protein engineering. Prof. Yakoub is also deeply committed to mentoring and training the next generation of scientists and biomedical researchers.



### Thai Preschoolers' movement behaviors outside kindergarten: Prevalence of meeting individual and integrated movement guidelines

**Vimolmas Tansathitaya<sup>1</sup>, Areekul Amornsriwatanakul<sup>1</sup>, Chutima Jalayondeja<sup>2</sup>, Apichai Wattanapisit<sup>3</sup>, Rattanaporn Chootong<sup>4</sup>, Suchada Saovieng<sup>1</sup>, Ampika Nantabanha<sup>1</sup>, Terence Chua<sup>5</sup> and Michael Chia<sup>5</sup>**

<sup>1</sup>College of Sports Science and Technology, Mahidol University, Thailand

<sup>2</sup>Faculty of Physical Therapy, Mahidol University, Thailand

<sup>3</sup>School of Medicine, Walailak University, Thailand

<sup>4</sup>Faculty of Medicine, Prince of Songkla University, Thailand

<sup>5</sup>National Institute of Education, Nanyang Technological University, Singapore

**Background:** This study aimed to investigate movement behaviors of Thai preschoolers (aged 3–6 years) occurring outside kindergarten in urban areas across Thailand.

**Methods:** Surveillance of digital Media in early childhood Questionnaire® was used to collect data from 1051 parents recruited from 12 schools. Descriptive statistics and logistic regressions were applied for data analysis.

**Results:** Thai preschoolers engaged in physical activity (PA), sedentary screen time, and sleep on weekends significantly more than weekdays with no significant sex differences.

Preschoolers met the sleep guidelines the most (62.3%), followed by PA guidelines (48.0%), and screen time (ST) guidelines the least (44.1%). Only 14.6% met the integrated movement guidelines, and 11% met none of the guidelines. Age was positively associated with meeting the PA guidelines, and negatively associated with meeting the sleep and integrated movement guidelines. The number of digital devices at home and geographical region influenced preschoolers in meeting the PA and ST guidelines.

**Conclusions:** Thai preschoolers' time spent on all forms of activities outside kindergarten was significantly more on weekends than weekdays with no sex disparity. The prevalence of meeting the integrated movement guidelines was low, and needs to be addressed through comprehensive programs including all forms of activities concurrently.

Joint Event

# Neurology and Neurological Disorders



## Advances in Addiction Medicine and Mental Health

June 25-26, 2024 | Amsterdam, Netherlands

### Biography

Vimolmas Tansathitaya serve as a lecturer at Thailand's Mahidol University's College of Sports Science and Technology. Her primary research interests concern miRNA and chronic illnesses, as well as fitness. She is also interested in studies on the microbiome in chronic illnesses and exercise, which was presented in an article in 2022. One of her significant study topics concentrated on illnesses and their effects on birth abnormalities acquired by the second and third generations of descendants. MiRNAs and target genes were employed as biomarkers in the research. Tinarathpatra Co Ltd., Thai Health Promotion Foundation, and Mahidol University have all provided her with financial support to study the BDNF gene expressions in amphetamine drug users as part of my ongoing research. This research focused on BDNF gene expression, single nucleotide polymorphism (SNP), mRNAs, miRNAs, and the microbiota to modify miRNAs and target gene expression. After she received my Ph.D. in Health Promotion and Human Services from the University of Cincinnati in the United States, she was inspired to act on another idea. One of my initial thoughts was to look at how genotypes could potentially evolve as lifestyles shifted and how exercise could help mitigate diseases. Since then, she have been motivated to begin examining genetic causes by performing in-depth studies in epigenetics, with a focus on miRNAs and target genes as major indicators.



## Advances in Addiction Medicine and Mental Health

June 25-26, 2024 | Amsterdam, Netherlands



### Explore pharmacological research of Traditional Chinese medicine prescriptions for Alzheimer's disease based on interdisciplinary research

#### Shaowu Cheng

Laboratory of Hunan Province for Integrated Traditional Chinese and Western Medicine on Prevention and Treatment of Cardio-Cerebral Diseases, Hunan University of Chinese Medicine, China

Alzheimer's disease (AD) is a typical multifactorial complex disease. Its occurrence and development process involves the abnormality of structure and function of multisystem and multilink. However, the current prevention and treatment drugs are developed for a single target, such as cholinesterase inhibitors, NMDA receptor antagonists and so on. The clinical efficacy is not satisfactory. Therefore, we propose to find and establish an anti-AD drug screening and evaluation system from the perspective of "combined targets", that is, to find and discover a group or groups of "combined targets" closely related to the pathological changes and cognitive impairment in the brain of AD, which are complementary and synergistic with each other. Object screening provides a more effective target system. Therefore, we used Traditional Chinese medicines as probes, took the AD model mice as models, and used interdisciplinary methods, including transcriptomics, bioinformatics and network pharmacology techniques, to screen the possible drug molecules and therapeutic targets for AD. Through bioinformatics analysis and comparison, we preliminarily proposed a group of drugs which may be used for AD prevention and treatment screening. The candidate "combinatorial molecular targets" were preliminarily validated by pharmacology, molecular biology, immunohistochemistry and bioinformatics techniques. This study lays a foundation for the discovery of molecular targets for AD screening and evaluation based on interdisciplinary research, and provides new clues for the pharmacological study and elucidation of the pathogenesis of AD.

#### Biography

Shaowu Cheng, Ph.D, Professor, and Doctoral Supervisor. Graduated with a PhD from Sun Yat-sen University and have been engaged in basic and translational research on the prevention and treatment of neurodegenerative diseases at the University of Kansas Medical Center and the University of Minnesota School of Pharmacy in the United States. Currently serving as the Deputy Director of the Science and Technology Department at Hunan University of Chinese Medicine. "Youth Hundred Talents Plan" in Hunan Province, and young Shennong scholars in Hunan Province.

## Advances in Addiction Medicine and Mental Health

June 25-26, 2024 | Amsterdam, Netherlands



### Study on the relationship between vertebrobasilar dolichoectasia and posterior cranial fossa space

**Yao Xiaolong<sup>1</sup>, Kong Fanji<sup>1</sup>, Ye Jianfeng<sup>1</sup>, Lai Li<sup>1,2</sup> and Li Jun<sup>1</sup>**

<sup>1</sup>The Third People's Hospital of Hubei Province, China

<sup>2</sup>Medical School of Jiangnan University, China

To investigate the correlation between vertebrobasilar dolichoectasia (VBD) and posterior cranial fossa (PCF) space. The medical records and imaging data of patients with VBD and control group were collected from June 2021 to June 2022 in the Third People's Hospital of Hubei Province. All patients with VBD were graded by CTA. The grading index was divided into two parts, including vertebral artery bifurcation height and offset degree. Taking the healthy adult subjects of matched age as the control group. The linear volume of posterior cranial fossa was measured by median sagittal CTA images. The volume of the PCF was calculated by 3D slice software. The relationship between VBD and the volume of PCF was analyzed by SPSS23.0. The height diameter of posterior cranial fossa, sagittal diameter of posterior cranial fossa, transverse diameter of occipital foramen, clival length, supraoccipital length and space volume of PCF were  $34.78 \pm 3.67\text{mm}$ ,  $85.49 \pm 4.15\text{mm}$ ,  $30.89 \pm 3.94\text{mm}$ ,  $44.53 \pm 5.36\text{mm}$ ,  $45.21 \pm 6.45\text{mm}$ ,  $171.08 \pm 15.81 \text{ cm}^3$  in the case group. The linear volume of PCF and space volume of PCF were significantly lower than those in the control group ( $P < 0.05$ ). Binary logistic regression analysis showed that the independent risk factors of VBD were height diameter of PCF, sagittal diameter of PCF, transverse diameter of occipital foramen, clival length, supraoccipital length and space volume of posterior cranial fossa. According to the classification, the height and diameter of PCF was significantly smaller than that in VBD. Under the standard of BA bifurcation degree, there were significant differences between different grades of VBD patients and age. The smaller volume of PCF may leading the greater possibility of VBD. Under the classification of VBD, the older, the longer the course of disease is, the higher degree of VBD classification is. Abstract should give clear indication of the objectives, scope, results, methods used, and conclusion of your work. One figure and one table can be included in your results and discussions.

Joint Event

# Neurology and Neurological Disorders



## Advances in Addiction Medicine and Mental Health

June 25-26, 2024 | Amsterdam, Netherlands

### Biography

09.2014- present

Hubei Zhongshan Hospital Affiliated to Jiangnan University, Wuhan, China.

Project1: PDCD10 and ADAM12 mediates EMT and cell migration, invasion and proliferation of glioma.

Project2: Regulation of TLR4/NLRP3 signaling pathways in microglia after traumatic brain injury.

## Advances in Addiction Medicine and Mental Health

June 25-26, 2024 | Amsterdam, Netherlands



### Validation of self-efficacy questionnaire of online learning for students with disabilities in higher education

**Tuba Gezer<sup>1</sup>, Stella Kim<sup>2</sup> and Othelia EunKyoung Lee<sup>2</sup>**

<sup>1</sup>The Ohio State University, USA

<sup>2</sup>University of North Carolina at Charlotte, USA

Considering the rise of online education and an increasing number of students with disabilities in higher education, examining the validity of the Self-efficacy Questionnaire for Online Learning (SeQoL) for students with disabilities is warranted. The purpose of this study is to examine the reliability and validity of (SeQoL; Shen et al., 2013) for students with disabilities in higher education. We analyzed the internal structure, convergent validity, criterion validity, and reliability of SeQoL. A sample of 278 students with disabilities responded to an online survey in Spring 2021. Most of our sample were female, White, and undergraduate students. We used confirmatory factor analysis, correlation, multivariate analysis of variance, and Cronbach's alpha to analyze the data. Our results indicated that data fit the five factors model with 25 items. Students who preferred online or hybrid courses had significantly higher online learning self-efficacy than face-to-face courses. Students with disabilities could prefer online education because of its flexibility (Verdinelli & Kutner, 2016), so the implication of this study is important for instructors to assess students with disabilities' readiness for online learning and college students for self-assessment. Second, the validity of SeQoL for students with disabilities in higher education is crucial because, in addition to students who registered at disability service, there are students who received special education in high school but did not register for disability services in higher education (Newman & Madaus, 2015).

#### Biography

Tuba Gezer, Ph.D. is a postdoctoral fellow at Ohio State University. She worked at the Institute for Education Policy, Johns Hopkins University. She completed her Ph.D. in Educational Research, Measurement, and Evaluation from the University of North Carolina at Charlotte. Her dissertation examined providing equal educational opportunities to English learners in the United States. She is passionate about equity and equality in educational settings. Her research interests are English learners, English learners with disabilities, academic achievement, structural equation modeling, research methodology, digital citizenship, and the digital divide. Dr. Gezer has presented widely, including annually, at the American Educational Research Association conference, as well as at conferences such as the Association for Educational Communication and Technology and the EdMedia World Conference on Educational Media and Technology. She is the recipient of the Excellent Research on Inclusion and Accessibility in Education Assessment by American Educational Research Association.



### Learning/recall mismatching combined with ketamine treatment alter methamphetamine memory magnitude and mPFC mGluR5 level

**Lung Yu<sup>2</sup> and Chian-Fang Cherng<sup>1</sup>**

<sup>1</sup>Center for Human Sciences, Yang Ming Campus, National Yang Ming Chiao Tung University, Taiwan, ROC

<sup>2</sup>Institute of Basic Medical Sciences, National Cheng Kung University College of Medicine, Taiwan, ROC

This study was undertaken to assess whether brief recall and ketamine (KE) treatment in combination may affect MA memory magnitude. Moreover, it was also designed to examine whether animals' MA memory magnitude may associate with their medial prefrontal cortex (mPFC) metabotropic glutamate type 5 (mGluR5) expression levels. Methamphetamine (MA) conditioned place preference (CPP) was used to model an MA memory. Compared to the control animals, a single sub-anesthetic injection with KE (30 mg/kg) and combining 3-min recall and saline (Sal) treatment did not seem to affect MA CPP magnitudes. Notably, brief recall and KE (30 mg/kg) in combination was found to facilitate MA CPP rapid extinction. Paradoxically, mice' MA CPP magnitudes in the Retest associated positively with their mPFC mGluR5 expression levels. And such upregulated mGluR5 levels were eminent in local GABA neuron. These results prompt us to hypothesize that combining a brief recall and KE treatment may facilitate MA memory extinction. Moreover, mPFC mGluR5 levels seemed to play a role in mediating MA CPP magnitudes.

#### Biography

Lung Yu, got his Ph.D. from Prof. GC Wagner at Rutgers University back in 1996. Prof. Yu is currently working as a distinguished Professor in Department of Physiology, College of Medicine, National Cheng Kung University.





### Management of floating arm: A case report

**Nadia Zameni<sup>2</sup>, Farsad Biglari<sup>1</sup>, Amir Sabaghzadeh<sup>1</sup>, Niki Tadayon<sup>3</sup>, and Meisam J Kafiabadi<sup>1,4</sup>**

<sup>1</sup>Department of Orthopedic Surgery, Clinical Research Development Unit of Shohada-e Tajrish Hospital, Shahid Beheshti University of Medical Sciences, Iran

<sup>2</sup>School of Medicine, Shahid Beheshti University of Medical Sciences, Iran

<sup>3</sup>Department of General and Vascular Surgery, Shohada Tajrish Hospital, Shahid Beheshti University of Medical Sciences, Iran

<sup>4</sup>Physiotherapy Research Center, Shahid Beheshti University of Medical Sciences, Iran

**F**loating arm is a rare fracture with diverse treatment Options. In this study we introduce a 59-year old man with a rare humeral fracture and severe crush injury of the forearm. The patient was managed by minimally invasive plate osteosynthesis (MIPO) and vacuum-assisted closure (VAC) followed by a split-thickness skin graft.

#### Biography

She is a 25 year-old medical student at Shahid Beheshti University of Medical Sciences and a Manufacturing Engineering student at Islamic Azad University, Central Tehran Branch. She hope to further her studies in the field of EEG and machine learning in converting human thought into action and she is welcome to any opportunities in this field and in novel medical device design and manufacturing.



### Effects of pre-conditioning of endurance training with different intensities on the soleus muscle atrophy in a period of inactivity: The role of PGC-1 $\alpha$ 4 gene

**Aram Asadi Karam<sup>1</sup>, Javad Nemati<sup>1</sup>, Majid Asadi Shekaari<sup>2</sup>, Farhad Daryanoosh<sup>1</sup> and Mohammad Hematinfar<sup>1</sup>**

<sup>1</sup>Department of Exercise Physiology, Faculty of Physiology and Educational Science, Shiraz University, Iran

<sup>2</sup>Neuroscience Research Center, Neuropharmacology Institute, Kerman University of Medical Science, Iran

**Background:** There are a few studies that show effective factors in preventing Muscle atrophy. This study aimed to measure PGC-1 $\alpha$ 4 soleus muscle and to investigate the effect of endurance training pre-conditioning with different intensities on the atrophy response of the soleus muscle to a period of inactivity.

**Materials and Methods:** In this experimental study, 24 male Wistar rats were randomly divided into equal groups including control (C), control inactivity (CI), high-intensity endurance training group (HE) (treadmill speed 30 km/h), and low-intensity endurance training group (LE) (speed Treadmills 10 km /h). After two weeks of familiarization, the endurance training group ran on a treadmill for two weeks and five sessions each week. The animal's lower limbs were then immobilized for 7 days. Then the soleus muscle was extracted, and after weighting, the expression of the PGC-1 $\alpha$ 4 gene was measured using the Real time-PCR technique. Data were analyzed using SPSS v.24.

**Results:** The expression of the PGC-1 $\alpha$ 4 gene was significantly higher in the HE group than the CI group. However, compared to the C group, all groups with inactivity intervention showed significantly lower PGC-1 $\alpha$ 4 gene levels. The ratio of muscle mass to body weight in the C group was significantly higher than the LE and the CI groups, and higher in the HE group than the CI group.

**Conclusion:** Endurance training seems to be reduce distractive effects of inactive atrophy. The higher intensity of these exercises was more effective, which was associated with increased expression of the PGC-1 $\alpha$ 4 gene.

Joint Event

# Neurology and Neurological Disorders



## Advances in Addiction Medicine and Mental Health

June 25-26, 2024 | Amsterdam, Netherlands

### Biography

Dr. Asadi Karam was born in Dezful on March 21, 1990. After graduating from Medical University High school in Shiraz, she received his bachelor's degree from the Islamic Azad University, branch of Kerman in Physical Education. She obtained her master's degree from Shahid Bahonar University of Kerman in Sport Physiology. She got PhD degree from Shiraz University. Dr. Asadi Karam has more than 10 years' experience in teaching Sport Physiology and is the author of 2 scientific publications. Following a Ph.D. in Sport Physiology she took up a position as a tenure- track assistant professor of Islamic Azad University, Kerman branch. Dr. Asadi Karam is a member of Physical fitness federation of Iran. She is currently working as a coach in private gym her research area consists of animal models of muscle atrophy.

## Advances in Addiction Medicine and Mental Health

June 25-26, 2024 | Amsterdam, Netherlands



### Cytoprotective effects of VANL-100 against oxidative stress and beta- amyloid-induced toxicity

**A. Collins, T. Saleh and B. Kalisch**

University of Guelph, Canada

Antioxidants are being explored as novel therapeutics for neurodegenerative disorders such as Alzheimer's disease. Recently, strategies such as chemically linking antioxidants to synthesize novel co-drugs have been tested. The objective of this study was to investigate the cytoprotective effects of VANL-100, synthesized by covalently linking naringenin (NAR) and alpha-lipoic acid (ALA), in a cellular model of oxidative stress and beta-amyloid (A $\beta$ )-induced toxicity. The cytoprotective effects of VANL-100 and its parent compounds were measured against H<sub>2</sub>O<sub>2</sub> and A $\beta$  using the 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyl-2H-tetrazolium bromide (MTT) assay in SH-SY5Y cells in pre-treatment and co-treatment experiments. In pre-treatment experiments, VANL-100 or one of its parent compounds NAR or ALA alone or in combination (NAR+ALA) was administered 24 hours prior to an additional 24-hour incubation with 25  $\mu$ M H<sub>2</sub>O<sub>2</sub> or 20  $\mu$ M A $\beta$ . Co-treatment experiments consisted of simultaneous treatment with 25  $\mu$ M H<sub>2</sub>O<sub>2</sub> or 20  $\mu$ M A $\beta$  and all antioxidants. In the model of H<sub>2</sub>O<sub>2</sub>-induced toxicity, VANL-100 attenuated toxicity induced by 25  $\mu$ M H<sub>2</sub>O<sub>2</sub> at a dose of 20  $\mu$ M, while 100  $\mu$ M of ALA was required. No statistically significant attenuation was observed when SH-SY5Y cells were pre-treated with NAR alone or NAR+ALA. In the model of A $\beta$ -induced toxicity, VANL-100 attenuated cell death at all doses in both pre-treatment and co-treatment time points. There was no difference in the protective effects of VANL-100, NAR, ALA and NAR+ALA. These results demonstrate that the novel co-drug, VANL-100 is capable of eliciting cytoprotective effects against A $\beta$ -induced toxicity and H<sub>2</sub>O<sub>2</sub>-induced toxicity at a dose lower than the parent compounds alone.

#### Biography

Andrila Collins is a PhD candidate in the Department of Biomedical Sciences at the University of Guelph within the Collaborative Neuroscience Specialization Program. Her research interest consists of exploring novel therapies for neurodegenerative diseases and disorders such as Alzheimer's disease, that are characterized by oxidative stress. The focus of her current research project is investigating the neuroprotective effects and mechanisms of action of a novel antioxidant co-drug called VANL-100. VANL-100 is the product of the covalent linkage of the antioxidants naringenin and alpha lipoic acid. The findings from her studies may provide insight into the neuroprotective potential of antioxidant conjugate compounds such as VANL-100 for the prevention and/or treatment of neurodegenerative conditions that are characterized by oxidative stress.



### Surgical de-tethering of a type I split cord malformation: A 2-D operative video

**Jehan Bista<sup>1</sup>, Bryan Lieber<sup>2</sup>, Mansour Mathkour<sup>2</sup>, James Kalyvas<sup>3</sup> and Pervez Khan<sup>2</sup>**

<sup>1</sup>The University of Queensland – Ochsner Clinical School, USA

<sup>2</sup>Department of Neurosurgery, Tulane Medical Center, USA

<sup>3</sup>Department of Neurosurgery, Ochsner Medical Center, USA

**Background:** Diastematomyelia is a condition often referred to as split spinal cord malformation. There are 2 types:

**Type I:** characterized by a bony or osteo- cartilaginous septum, typically with two dural sacs, usually associated with cord tethering and syringomyelia, usually requires surgical intervention in children

**Type II:** no bony spur or septum, typically with one dural sac, usually does not require surgery

**Objective:** This operative video aims to present a surgical technique for de-tethering type I split cord malformation in an adult. Video footage is practically unheard of, particularly in cases where the bony septum traverses the lamina into the vertebral body.

**Clinical presentation:** The patient is a 52-year-old female who presented with chronic neck and back pain radiating to all extremities, a myelopathic gait requiring the use of a walker, and mixed urinary incontinence.

**Neurological exam:**

- Diffuse 3+ hyperreflexia
- BLE dorsiflexion 4/5
- L thigh numbness
- No dermatologic stigmata of dysraphism

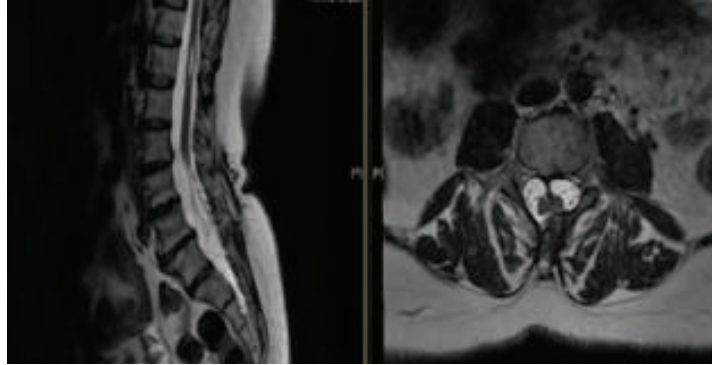


## Advances in Addiction Medicine and Mental Health

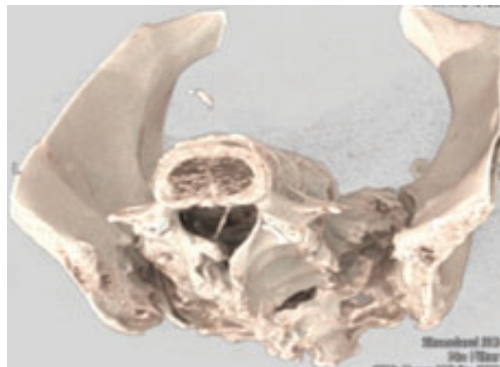
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### Preoperative Imaging:

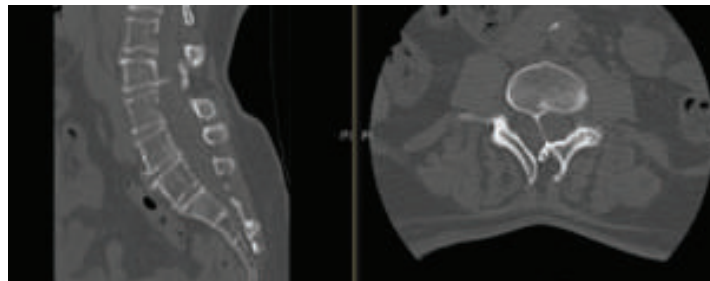
A. MRI lumbar spine



B. 3-D reconstruction CT



C. CT lumbar spine



### Why did we operate?

- **Indications for surgery:** tethering of the bony septum to the spinal cord, leading to neuropraxia and cervical myelopathy
- **Risks of surgery:** CSF leak, recurrent tethering, damage to spinal cord or cauda equina
- **Benefits of surgery:** relieving symptoms of cord compression

## Advances in Addiction Medicine and Mental Health

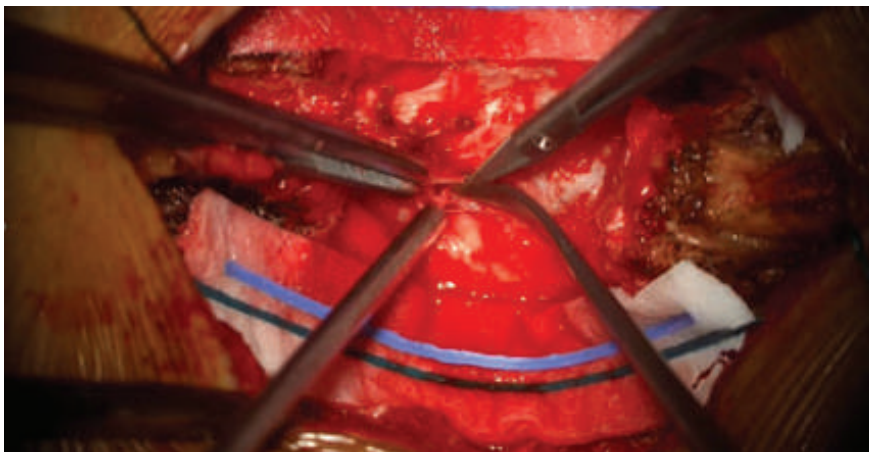
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- **Alternatives to surgery:** conservative care, vertebral column shortening
- **Limitations:** no urodynamic testing

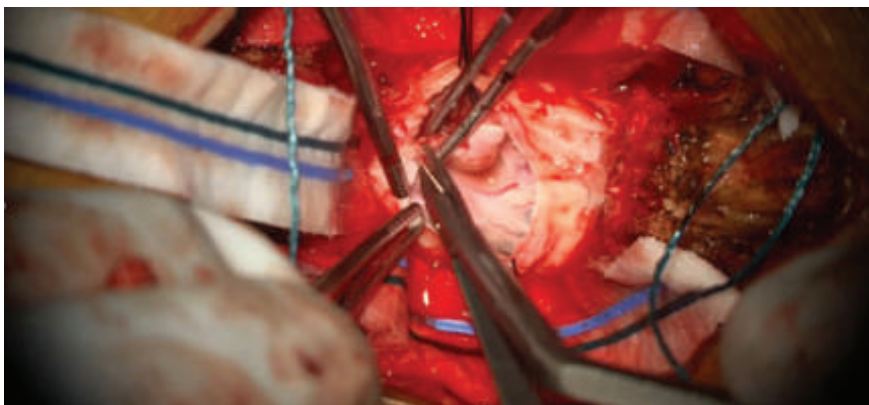
### Day of the operation:

- Positioning the patient
  - Prone on a Jackson table with a Wilson frame
  - Continuous neuromonitoring via SSEPs, MEPs, and EMG
- Intraoperative steps

**Step 1:** A standard laminectomy is performed at L2 by removing the lamina piecemeal instead of *en bloc*.



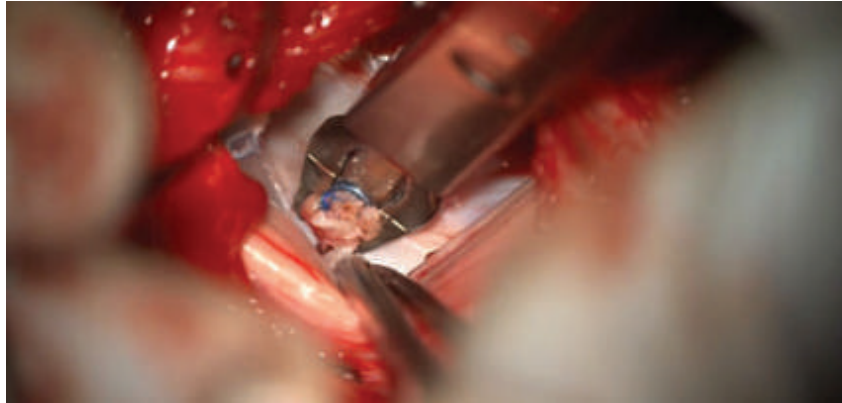
**Step 2:** An elliptical incision was performed around the dural tract that bifurcated the hemichords.



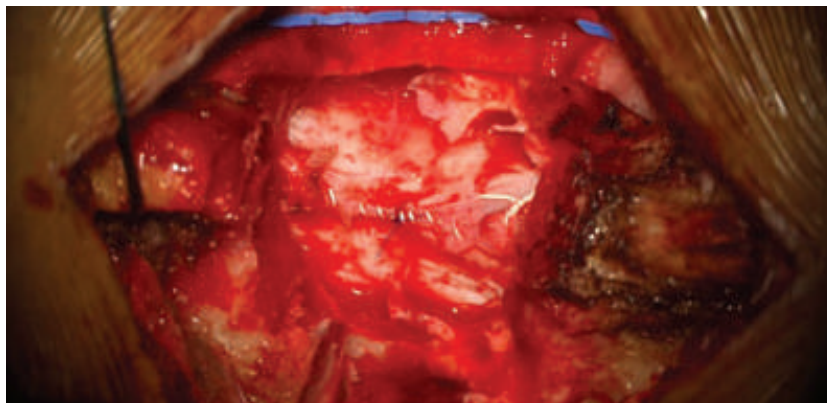
**Step 3:** A Ligaclip was used to fortify dural closure due to concern for ventral CSF leak.

## Advances in Addiction Medicine and Mental Health

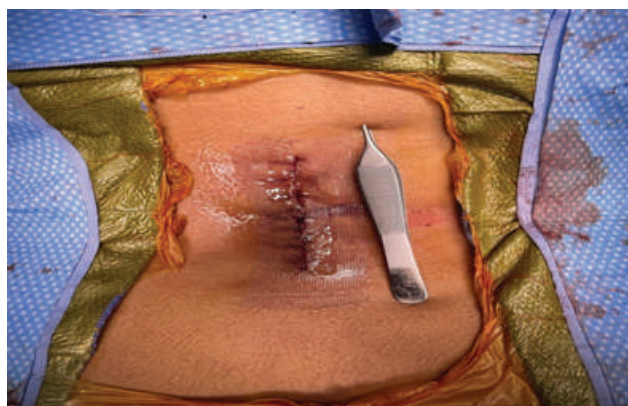
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**Step 4:** After Ligaclip closure, the dura was closed with 5-0 Gore-Tex and the rest of the incision was closed in a standard fashion.



**Step 5:** Notice the incision site, smaller than a pair of Adson forceps



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### Postoperative outcome (2 Months):

- Radicular pain resolved
- Walker no longer required to ambulate
- Improved urinary urgency
- Well-healed incision

### Biography

Dr. Jehan Bista, MD, MPH, is a recent medical school graduate and aspiring neurosurgeon who holds an MD from the University of Queensland-Ochsner Clinical School, MPH in Epidemiology and Biostatistics from Boston University, and BA in Neuroscience from the University of Southern California. He has published in top-tier neurosurgery journals including World Neurosurgery, Journal of Neurosurgery, and Operative Neurosurgery.

Dr. Bista currently conducts research with Dr. Aaron Dumont, Chair of Neurosurgery at Tulane University, focusing on the effects of CXA-10 on cerebral aneurysm formation and rupture. He collaborates remotely with Vanderbilt's Global Neurosurgery Laboratory to address gaps in neurosurgical care in resource-deprived regions. Additionally, he is enrolled in an MIT course on AI applications in healthcare and collaborates with Dr. Raja Jayaraman at Khalifa University on research related to the integration of AI in healthcare settings.

Dr. Bista's neurosurgical interests include global neurosurgery, skull base, endovascular, and open vascular techniques.





Advances in Addiction Medicine  
and Mental Health

June 25-26, 2024 | Amsterdam, Netherlands

**A dynamic loss function for improved semantic segmentation****Haroon. Haider and Majid. Iqbal**

COMSATS University, Pakistan

The effectiveness of the training process significantly impacts the performance of a machine learning (ML) model. The loss function plays an important role during training as it determines the learning curve of the ML model and offers recommendations for enhancing the model's optimization. The choice of the loss function is crucial for models employed in tasks, such as image classification and semantic segmentation. When data are extracted from different image features, it can lead to a diminished gradient value during the model training, particularly when conventional loss functions are employed. A dynamic loss function is needed that can self-adjust to handle class imbalance problems so that the major objects do not undermine the minor objects, leading to false and imprecise detection and improper classification. This paper introduces a dynamic auto tunable loss function that can adjust itself throughout the model's training process, aiming to tackle the issue of class imbalance. Leveraging the use of a focusing hyper parameter gamma, the proposed Auto-tunable Hyperparameter loss function (ATHpL) focuses the model's attention on both the major as well as the minor objects during the training. Experiments were conducted on three imbalanced medical image datasets to compare the performance of the proposed dynamic loss function with state-of-the-art loss functions using different ML models. The results demonstrate that during the training process proposed dynamic loss function manages to significantly reduce the convergence time of the model by sharply minimizing the loss. Moreover, during validation process these ML models showed improved performance in terms of accuracy, recall and precision. Finally, the proposed loss function is data and application independent as it has the ability to learn and focus on any input variant even with limited samples that leads to significant reduction in the convergence time of the model.

**Biography**

Haroon Haider Khan PhD (COMSATS UNIVERSITY Islamabad, Pakistan), Head of Department Computer Science Roots IVY College affiliated with University of Bedfordshire UK. His primary scope of research is AI in the field of medicine and autonomous vehicles. Has to his credit a total of 20-year experience of teaching and as a visiting Professor in Higher Education Commission recognized universities like International Islamic University and University of Lahore. Also works in the capacity of an independent consultant and CEO of software firm HPsoft which provides IT solutions to small and medium sized businesses.





## MTADV 5-MER peptide suppresses lung fibrosis, RA, IBD and MS mouse models and inhibits human fibroblasts biological functions by targeting SAA, which fuels fibrosis

### David Naor

The Lautenberg Center for Immunology and Cancer Research, The Hebrew University - Hadassah Medical School Jerusalem, Israel

The 5-MER peptide (5-MP) is N-acetylated C-amidated to improve its survival in the blood, thus allowing its therapeutic effects. 5-MP inhibits human Serum Amyloid A (SAA) activity, that fuels chronic inflammation and fibrosis by interfering with the formation of SAA oligomers and SAA-aggregated fibrils. Both are responsible for chronic inflammations and fibrosis *in vivo* and *in vitro* release of pro-inflammatory cytokines from *human* SAA-activated monocytes and fibroblasts. Uncontrolled fibroblast repair mechanism of injury generates fibrosis. The last (fibrosis) is much less responsive to medical intervention than inflammation. However, we found, using ELISA at the protein level and qRT-PCR at the transcriptomic level, that 5-MP inhibits the activity of pro-inflammatory cytokines (IL-6 IL-1 $\beta$ , TNF $\alpha$ ) in human fibroblasts and monocyte, both cell types are associated with inflammation and fibrosis. Furthermore, the *in vitro* proliferation potential of human fibroblasts was suppressed following their incubation with 5-MP, which explains the ability of the peptide to suppress the accumulation of fibroblasts *in vivo*, leading to fibrosis. In conclusion 5-MP displays therapeutic potential in models of lung fibrosis, thus extending the anti-inflammatory potential of this peptide to fibrotic maladies, which are included in the category of “drugs unmet diseases”.

### Biography

Professor David Naor is a professor of immunology in the Hebrew University-Hadassah Medical School and was the head of Milton Winograd chair of cancer studies. Professor Naor served as associate visiting professor, Department of Microbiology and Immunology, UCLA, 1975-1976, visiting professor, University of South Florida, Tampa, Florida, March 1979, June 1980, visiting professor, Harvard Medical School, Summer 1984, visiting scientist, Memorial Sloan-Kettering Cancer Institute, New York, Summer 1985, visiting professor, Charing Cross Sunley Research Centre, London, September 1987 to November 1988. Professor Naor was invited as plenary lecturer in many scientific conferences such as New York Academy of Science Conferences, International Congresses on Autoimmunity in Tel Aviv, Budapest, Sorrento, Porto, Lubljana and Granada and the hyaluronan 2003 symposium in Cleveland as well as an invited speaker in a conference entitled “from the laboratory to the clinic, September 1988, September 1991, September 1993, September 1994, September 1996, October 1998, September 1999, September 2000, September 2001, September 2002, September 2003, September, 2005, September,

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2007, September 2008, september 2010; September 2012, September 2013. Professor Naor received grants from NIH USA, Leukemia Foundation USA, United States-Israel Binational Science Foundation, German Cancer Foundation, German-Israel Foundation and the Israel Ministry of Commerce and Industry, as well as from other agencies. Professor Naor published a book entitled "Immunosuppression and Human Malignancy", Humana Press, New Jersey, 1988 as well as 149 articles in the international literature. Professor Naor is supervising at present 4 post docs Prof Naor is a founder of the start-up company Maimonidex. Professor Naor was a member of the editorial board of Journal of Autoimmunity. Professor Naor received award from Johnson & Johnson, Focused Giving Program "In recognition of outstanding research toward the advances of science and technology in health care." Prof Naor received the 2013 prize of the Faculty of Medicine, Hebrew University of Jerusalem for its "continuing distinguished achievements in research and teaching".



### Understanding Executive Functioning (EF) deficits inherent in ADHD and Autism (ASD)

#### Mary Hynes Danielak

Psy.D, Licensed Psychologist, The Counseling and Development Center Alpharetta, USA

Executive Functions (EF) are a topic that is often thrown around loosely by both parents and professionals without a clear understanding of what are the specific EF's and how they manifest. Even professionals can't agree on how many executive functions exist. These functions are core deficits in ADHD, ASD, and other disorders, with varying levels of severity. However, even a minimal degree of dysfunction in a few areas of executive functioning can cause a person to struggle in many aspects of life and can persist over a lifetime. Increase your knowledge of the types of EF, the breadth and depth of these, the types of disorders they can be present in, and how they impact daily life.

We will discuss each of these Executive Functions specifically, focusing on the most prevalent types of these deficits and the impact they have in daily life. The attendees will be able to identify different types of Executive Functions and name 5 of the most prominent types. The attendees will understand the plethora of ways these deficits can impact a patient's life and how these can manifest in daily life. Lastly, the attendee will learn interventions that may be useful for different types of Executive Functions. Although sparse in research there are useful interventions, and understanding these will help your effectiveness with patients.

#### Biography

Dr. Danielak is one of the founders and CEO of The Counseling and Development Center outside of Atlanta, GA., an interdisciplinary group of clinicians. Dr. Danielak has been in clinical practice since 1994, and has tested over 1600 children, teens, and adults. She has trained a numerous postdoctoral fellows in best practices of assessment and interpretation of data. Her testing includes the neuropsychological assessment of executive functions for differentiating ADHD from other disorders. She has developed an executive functioning coaching program for ages 16 years and up.

Her original doctoral dissertation research for her doctorate was published in Journal of Emotional and Behavioral Disorders, 3, 40- 45, she was a field researcher for the DSM-5 by the American Psychiatry Association and APA's Quality Measure Development for Behavioral Health Initiative. Dr. Danielak was also a field researcher with the Nesplora for the measurement of executive function in children.



### Balancing creative expression and societal well-being: A comprehensive regulatory framework for the Chinese Video Game Industry

**Zhaoxia Deng<sup>1</sup> and Zhijie Chen<sup>2</sup>**

<sup>1</sup>School of English for International Business, Guangdong University of Foreign Studies, China

<sup>2</sup>Department of Law, School of Humanities, Jinan University, China

This study explores the historical context surrounding administrative regulation concerning copyrighted works and illuminates its particular challenges within the realm of video games in China. It introduces a pioneering and tailored administrative framework designed explicitly for the Chinese video game industry by conducting a comparative analysis of regulatory practices on an international scale. This innovative approach effectively strikes a harmonious balance between fostering creativity and upholding social responsibility, ushering in a new era of measures to cultivate a robust and accountable gaming ecosystem. Through the integration of cutting-edge content rating systems, alongside the implementation of resilient anti-addiction measures, our framework is poised to empower the video game sector. Notably, the proposed framework transcends the traditional boundaries of regulatory efforts, encompassing a range of novel strategies that collectively contribute to its holistic efficacy. These strategies include real-time player engagement monitoring, dynamic adjustment of gameplay mechanics, and an adaptable player reward system, all of which synergistically function to enhance the gaming experience while ensuring player well-being and societal interests are safeguarded. The core aspiration of this research is to transcend convention and embark on a transformative journey, ultimately envisioning a gaming landscape enriched with unfettered creativity, robust player protection, and responsible industry growth within China. By charting this progressive course, the study envisions a future wherein the video game industry thrives not at the expense of social well-being but in tandem with it, setting a precedent for a globally admired model of conscientious interactive entertainment.

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### Biography

Dr. Zhaoxia Deng is an Assistant Professor of the School of English for International Business, Guangdong University of Foreign Studies. She holds an LLM from the National University of Singapore and a PhD from the University of Hong Kong. Her research interests mainly focus on international economic law, IP Law, and data privacy. Her works appear in academic journals such as CLSR, JKE, GNLULR, JCIL, etc. She received the First Prize in the Competition for Early Career Scholar of the ATRIP 38<sup>th</sup> Annual Congress, the ISSN International Best Researcher Award 2023, the Outstanding Research Achievement Award of GDUFS, and the First Prize for Excellent Undergraduate Teaching of GDUFS. She is now an associate researcher of the South China Institute for International Intellectual Property, a member of the Creative Commons Hong Kong and a member of the International Association for the Advancement of Teaching and Research in Intellectual Property.





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### Dizzy patient in the emergency, should we call the neurologist?

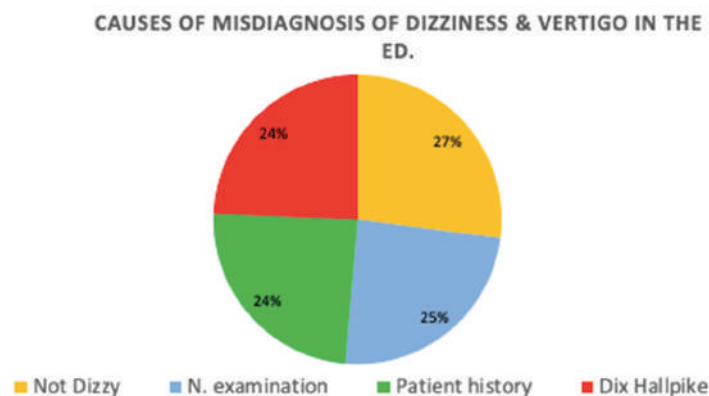
**Nouini Adrâa**

Delta Hospital, Chirec, Belgium

**Background:** The management of dizziness and vertigo can be challenging in the emergency department (ED). It is important to rapidly diagnose vertebrobasilar stroke (VBS), as therapeutic options such as thrombolysis and anticoagulation require prompt decisions.

**Objective:** This study aims to assess the rate of misdiagnosis in patients with dizziness caused by VBS in the ED.

**Methods and Results:** The cohort was comprised of 82 patients with a mean age 55years; 51% were women and 49% men. Among dizzy patients, 15% had VBS. We used Cohen's kappa test to quantify the agreement between two raters – namely, emergency physicians and neurologists – regarding the causes of dizziness in the ED. The agreement between emergency physicians and neurologists is low for the final diagnosis of central vertigo disorders and moderate for the final diagnosis of VBS. The sensitivity of ED clinical examination for benign conditions such as BPPV was low at 56%. The positive predictive value of the ED clinical examination for VBS was also low at 50%.



**Figure 2.** Causes of misdiagnosis of patients presenting with dizziness and vertigo in the emergency department

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Not dizzy = Patient used the word “dizziness” to describe his symptoms but did not complain about motion sensations, spinning, or lightheadedness (e.g., headache); N. examination = neurological examination, not performed or neurological abnormality not identified; Patient history = most frequently related to the description of vertigo (e.g., frequency, positional nature, duration); Dix Hallpike = maneuver not performed or misinterpreted.

**Conclusion:** There is a substantial rate of misdiagnosis in patients with dizziness caused by VBS in the ED. To reduce the number of missing diagnoses of VBS in the future, there is a need to train emergency physicians in neurovestibular examinations, including the HINTS examination for acute vestibular syndrome (AVS) and the Dix-Hallpike (DH) maneuver for episodic vestibular syndrome. Using video head impulse test could help reduce the rate of misdiagnosis of VBS in the ED.

### Biography

Nouini Adraa graduated as neurologist from Université Libre de Bruxelles. Then she had a training in vestibular disorders at Université de la Sorbonne Paris. She is also giving classes at Faculté de médecine de Rabat. She is also the first author of a study on vertigo in emergency department Nouini A et al. J Vestib Res. 2023 Mar 6. doi: 10.3233/VES-220109. She currently work at the Vertigo Clinic at CHU Saint Pierre and at Delta Chirec in Brussels.



### Driving assessment for persons with dementia: How and when?

Lara Camilleri<sup>1</sup> and David Whitehead<sup>2</sup>

<sup>1</sup>Saint Vincent De Paul Long Term Care Facility, Malta

<sup>2</sup>Department of Gerontology, University Hospital of Wales, UK

**D**ementia is a progressive neurodegenerative disease leading to deterioration in cognitive and physical skills. Driving is an important instrumental activity of daily living, essential for mobility and self-sufficiency. However, this is a complex skill which can be affected by dementia. A moving vehicle can be a dangerous tool in the hand of someone who cannot maneuver it properly. As a result, the assessment of driving capacity should be part of dementia management.

**Aims and Objectives:** Dementia comprises of different etiologies and stages consisting of different signs and symptoms. This increases the complexity of driving assessment. This study aims to identify driving behaviors common in dementia and compare different assessment methods.

**Method:** A literature search was performed using the PRISMA checklist as a framework.

**Results:** A total of forty-four observational studies and four meta-analysis were identified. Study characteristics varied greatly with regards to methodology, population, assessments, and outcome measures used. Drivers with dementia performed generally worse than cognitively normal drivers. Poor speed maintenance, lane maintenance, difficulty managing intersections and poor response to traffic stimuli were the most common behaviors identified in drivers with dementia. Naturalistic driving, standardized road assessments, neuropsychological tests, participant self-rating and caregiver rating were the most common driving assessment methods used. Naturalistic driving and on-road assessments had the highest predictive accuracy. Results on other forms of assessments varied greatly. Both driving behaviors and assessments were influenced by different stages and etiologies of dementia at varying degrees.

**Conclusion:** Methodology and results in available research are varied and inconsistent. As a result, more good quality research is required in this field. Like with any other form of assessment in geriatric medicine, a multidisciplinary, holistic, and patient centered assessment is the suggested approach when assessing driving competence in dementia.



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### Biography

Lara Camilleri obtained her MD from the University of Malta in 2014. After which, she worked in several Hospitals in Malta during her Foundation training. She completed Basic Specialist Training in General Medicine in 2018. She obtained her Specialization in Geriatric Medicine in January 2023 and she have a special interest in Cognitive Impairment and Dementia Care. This research was part of her theses for her MSc degree in Care of the elderly done with the University of Wales Trinity Saint David. She obtained her MSc degree in 2022.

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**Sertraline associated with gold nanoparticles reduce cellular toxicity and induce sex-specific responses in behavior and neuroinflammation biomarkers in a mouse model of anxiety****Helena M. Abelaira, Airam B. de Moura and Ricardo A. Machado-de-Ávila**

Laboratory of Pathophysiology Experimental, Postgraduate Program in Health Sciences, University of Southern Santa Catarina (UNESC), Brazil

This study aimed to evaluate the effects of sertraline associated with gold nanoparticles (AuNPs) in vitro cell viability and in vivo behavior and inflammatory biomarkers in a mouse model of anxiety. Sertraline associated with AuNPs were synthesized and characterized. For the in vitro study, NIH3T3 and HT-22 cells were treated with different doses of sertraline, AuNPs, and sertraline + AuNPs and their viability was evaluated using the MTT assay. For the in vivo study, pregnant Swiss mice were administered a single dose of lipopolysaccharide (LPS) on the ninth day of gestation. The female and male offspring were divided into five treatment groups on PND 60 and administered chronic treatment for 28 days. The animals were subjected to behavioral testing and were subsequently euthanized. Their brains were collected and analyzed for inflammatory biomarkers. Sertraline associated with AuNPs exhibited significant changes in surface characteristics and increased diameters. Different doses of sertraline + AuNPs showed higher cell viability in NIH3T3 and HT-22 cells compared with sertraline alone. The offspring of LPS-treated dams exhibited anxiety-like behavior and neuroinflammatory biomarker changes during adulthood, which were ameliorated via sertraline + AuNPs treatment. The treatment response was sex-dependent and brain region-specific. These results suggest that AuNPs, which demonstrate potential to bind to other molecules, low toxicity, and reduced inflammation, can be synergistically used with sertraline to improve drug efficacy and safety by decreasing neuroinflammation and sertraline toxicity.

**Biography**

Helena M. Abelaira has Master's degree in health sciences from the University of Southern Santa Catarina (UNESC) (2011) and a PhD in Health Sciences from UNESC (2017). Also was a postdoctoral fellow (CNPq) during 2017 to 2018, working in neurosciences, with an emphasis on neuropsychopharmacology, behavior and animal models of depression, at the Translational Psychiatry Laboratory at UNESC. Furthermore, from 2020 to 2021 was a postdoctoral fellow (FAPESC) in the project to combat Covid-19, at the Translational Psychiatry Laboratory at UNESC. She was awarded in 2014 and 2017 for the article "Animal models as tools to study the pathophysiology

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of depression" as the most cited in the Revista Brasileira de Psiquiatria and was invited to present them in the Top Ten Cited RBP session at the Brazilian Congress of Psychiatry, in 2015 and 2018, respectively. She has 61 published articles (originals and revisions), with an H-index factor: 28. Currently, she is part of the Advanced Biotechnology Laboratory at UNESC as a researcher, CNPq postdoctoral fellow, working in neurosciences and biotechnology.



### Prenatal diagnosis of fetal cortical developmental malformations using 3D-ICRV rendering technology

Yimei Liao<sup>1</sup>, Huaxuan Wen<sup>1</sup>, Bing Wang<sup>3</sup>, Tongda Zhang<sup>2</sup>, Shu-yuan Ouyang<sup>4</sup>, Qing Zeng<sup>1</sup>, Xin Wen<sup>1</sup>, Xin Jin<sup>2</sup>, Dandan Luo<sup>1</sup>, Meiling Liang<sup>1</sup>, Ying Tan<sup>1</sup>, Yue Qin<sup>1</sup>, Caiqun Luo<sup>5</sup>, Yang Liu<sup>6</sup>, Bingguang Liu<sup>6</sup>, Guanxun Cheng<sup>3</sup>, Ying Yuan<sup>1</sup> and Shengli Li<sup>1</sup>

<sup>1</sup>Department of Ultrasound, Shenzhen Maternity & Child Healthcare Hospital, China

<sup>2</sup>BGI-Shenzhen, China

<sup>3</sup>Department of Radiology, Peking University Shenzhen Hospital, China

<sup>4</sup>Department of Central Laboratory, Shenzhen Maternity & Child Healthcare Hospital, China

<sup>5</sup>Prenatal Diagnosis Center, Shenzhen Maternity & Child Healthcare Hospital, China

<sup>6</sup>Department of Radiology, Shenzhen Maternity & Child Healthcare Hospital, China

<sup>7</sup>Shenzhen Engineering Laboratory for Birth Defects Screening, China

**Objective:** This study aimed to assess the correlation between abnormal SF on intrauterine neurosonography and MCD, and to explore the value of Whole-Genome Sequencing (WGS) in prenatal detection.

**Methods:** This was a prospective study of fetuses with a sonographic diagnosis of abnormal SF between 2018 and 2020. Intrauterine and/or postnatal MRI examinations were performed to confirm the findings. Amniotic fluid/cord blood obtained by amniocentesis or tissue samples from umbilical cord after birth were collected for WGS. Pregnancy outcome and final diagnosis were recorded.

**Results:** During the study period, 28 fetuses with abnormal SF were identified, with an average gestational age of  $24.8 \pm 2.0$  weeks (range 21.3-30.0 weeks). Abnormal SF presented in MCD ( $n=15$ , 53.6%), chromosomal anomalies ( $n=3$ , 10.7%) or single-gene genetic syndromes ( $n=3$ , 10.7%) with the affected fetuses showing developmental delay, hydrocephalus or leukomalacia ( $n=4$ , 14.3%), corpus callosal agenesis with large interhemispheric cysts ( $n=1$ , 3.6%), benign subarachnoid space enlargement with arachnoid cysts ( $n=1$ , 3.6%), and multiple malformations ( $n=1$ , 3.6%). All cases were categorized into six types depending on SF morphology in the axial plane: no plateau-like or a small insula, no SF, irregular corrugated SF, frontal operculum dysplasia, and open operculum. A related pathogenic

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genetic variant was detected in 57.1% (16/28) and de novo SNVs accounted for 78.6% (11/14).

**Conclusions:** Familiarity with the abnormal ultrasonographic appearances of fetal SF is crucially involved in early detection of MCD and chromosomal anomalies/syndromes. Abnormal SF may indicate a subsequent poor neurodevelopmental prognosis, and single test strategy such as WGS is suggested.



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### Hermann grid illusion fails to fool patients with schizophrenia: Experimental support for a reduced lateral inhibition hypothesis

**Mehrana Kanani, Mohammad Ali Goodarzi and Mohammad Reza Taghavi**

Department of Clinical Psychology, College of Education and Psychology, Shiraz University, Iran

A large body of evidence indicated that patients with schizophrenia spectrum disorders show deficit in perceptual and visual processing, but little is known about the origin of this defect. One of the strategies used to reveal the origin of such defects is to use tests that have a strong neuropsychological basis in normal individuals. In this study, we used the Hermann grid task to reveal the source of visual deficit in patients with schizophrenia. Several findings have shown that the Hermann grid illusion results from lateral inhibition of neuro-visual pathway cells. We compared 26 patients with schizophrenia to 26 participants with high schizotypy traits and 26 normal controls in a computer test we designed for the Hermann grid illusion. Chi-square analysis revealed that the patients with schizophrenia and the participants with high schizotypy traits reported significantly less the Hermann grid illusion than healthy controls. Therefore, the results support the hypothesis of a defect in lateral inhibition of patients with schizophrenia. This might suggest that the visual pathway cells in schizophrenic patients failed to properly combine the data from the visual receptors as they do in healthy people.

#### Biography

Mehrana Kanani "One day, in retrospect, the years of struggle will strike you as the most beautiful." Her great passion is bringing healing to people who have been through the traumatic experience and suffer from mental disorder. She help her clients who especially include personality disorder to find healthy perceptions of themselves and improve their interpersonal and intrapersonal, so they can find themselves as peaceful, enough, whole, and safe.

From her experience no single approach is the right for every client, so she have been trained in the range of modalities including CBT, ST, DBT, ACT, and recently, short-term Psychoanalysis to the treatment of personality disorder that called ISTDP.

She has a PhD in clinical psychology from Shiraz University in Iran. She has completed ISTDP courses with the best international professors in this field. On the other hand, many students are taking these courses under her supervision in Iran.

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### Genetic etiology and prognosis of fetuses with lateral fissure angle $<0^\circ$ on transthalamic plane

**Qing Zeng and Shengli Li**

Shenzhen Maternity and Child Healthcare Hospital, China

**Objective:** To explore the etiology and prognosis of fetuses with a lateral fissure angle  $<0^\circ$  on the transthalamic plane.

**Methods:** A total of 62 cases of fetuses with a lateral fissure angle  $<0^\circ$  detected by ultrasound examination in Shenzhen Maternity and Child Healthcare Hospital were collected. Prenatal/postnatal genetic testing was performed, including karyotype analysis, chromosomal microarray analysis, and whole-exome sequencing to identify potential pathogenic causes. Follow-up was conducted to assess pregnancy outcomes and analyze relevant prognostic factors.

**Results:** Among the 62 fetuses with a lateral fissure angle  $<0^\circ$  detected by ultrasound, a positive genetic diagnosis was obtained in 42 cases (67.7%, 95% CI: 56.1% to 79.4%). The diagnostic variations included 5 microscopically visible chromosomal abnormalities, 10 microdeletions/microduplications, and 27 single nucleotide variants (SNVs). Two cases had positive diagnoses for both chromosomal abnormalities and SNVs. These 27 SNVs involved 17 genes, with LIS1, TUBA1A, NSD1, and NFIX genes (repeated three times each), and the APSM gene (repeated twice). Out of the 20 cases with negative genetic testing results, six infants were born, and among them, five had a good prognosis. Among the 42 cases with positive genetic testing results, six infants were born, and all of them had a poor prognosis.

**Conclusion:** This study demonstrated that the detection rate of pathogenic or likely pathogenic genetic variations in fetuses with a lateral fissure angle  $<0^\circ$  reached 67.7% (95% CI: 56.1% to 79.4%). Fetuses with positive genetic testing results were associated with delayed neurodevelopment and intellectual disabilities after birth, while those with negative genetic testing results had a more optimistic prognosis. We recommend incorporating the evaluation of the lateral fissure angle in fetal neurosonography to assess lateral fissure development. When a fetal lateral fissure angle  $<0^\circ$  is identified, genetic testing is recommended because these results can provide more comprehensive prognostic information for maternal-fetal medicine physicians and parents, thus enabling more appropriate counseling.

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### Biography

Qing Zeng is an Associate Chief Physician in the Ultrasound Department of Shenzhen Maternity and Child Healthcare Hospital. She holds a Master's Degree and her research focus is on fetal ultrasound diagnosis.

Professor Li Shengli is the director of the Ultrasound Department at Shenzhen Maternal and Child Health Hospital. He holds a Master's degree and his research focus is on fetal ultrasound diagnosis and artificial intelligence.

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