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International Webinar on

# **Neuroscience and Psychiatry**

November 08-09, 2021







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## International Webinar on Neuroscience and Psychiatry November 08-09, 2021 | GMT+2

### Day 01 (November 08, 2021)

09:00–09:20	<b>Title: Reliably measuring sensory perceptual errors that are prevalent in patients presenting with mental health disorders and considered to be associated with the onset and evolution of mental health disorders</b>
	<b>Ken Ware</b> , NeuroPhysics Therapy Institute, Australia
09:20–09:40	<b>Title: Thalamostriatal system controls learning and switching of behaviors</b>
	<b>Kazuto Kobayashi</b> , Fukushima Medical University, Japan
09:40–10:00	<b>Title: Anti-NMDA receptor encephalitis: A case of atypical acute psychosis with absence of neurological symptoms</b>
	<b>Sarada Devi</b> , Tuanku Jaafar Hospital, Malaysia
10:00–10:20	<b>Title : Screening for depression in movement disorders clinic. Neurological Science</b>
	<b>Parviz Bahadoran</b> , Princess Royal Hospital, UK
10:20-10:40	<b>Title: Rehabilitation robotics: A step ahead in neurorehabilitation</b>
	<b>Sucheta Saha</b> , Institute Of Neurosciences Kolkata, India
10:40–11:00	<b>Title: A rare case of isolated intramedullary spinal cord cysticercosis</b>
	<b>Suchi Shah</b> , AMC MET Medical College, India
11:00–11:10	<b>Break and Refreshment</b>
11:10–11:30	<b>Title: Components of soft computing for epileptic seizure prediction and detection</b>
	<b>Suguna Nanthini</b> , SAAI centre for research, India
11:30–11:50	<b>Title: Spontaneous intracranial hemorrhage: A sign of cavernous angioma diagnosis in pediatric age group</b>
	<b>Sayed Mohammed Jawad Alwedaie</b> , Independent scholar, Bahrain
11:50–12:10	<b>Title : COVID-19 crisis calls for psychological actions accessible within the nursing homes: Brief Mindfulness-Based Interventions for Seniors that improve emotional distress and cognitive functions</b>
	<b>Daniela Aisenberg-Shafran</b> , Ruppiner Academic Center, Israel
12:10–12:30	<b>Title: Person in transitive and virtual space: New challenges of modality</b>
	<b>Tatiana Martsinkovskaya</b> , RGGU, Russian Federation
12:30–12:50	<b>Title: PYCR2 mutation causing hypomyelination and microcephaly in an Indian child</b>
	<b>Preeti Srivastava</b> , Tata Main Hospital, India



12:50-13:10	<b>Title: Perceived changes of specific attitudes, perceptions and behaviors during the Corona pandemic in Germany</b>
	Ruth Helena Lueg, Clinical psychotherapist, Germany
13:10-13:40	Lunch
13:40-14:00	<b>Title: Non-pharmacological approach in degenerative neuro-psychiatric pathologies</b>
	Andrés J Ursa Herguedas, Clínica Naturista e Instituto de Medicina Integrativa, Spain
14:00-14:20	<b>Title: BDNF protein and anxiety disorders</b>
	Tatiana Marins Farias, UNIME, Brazil
14:20-14:40	<b>Title: Biofeedback in clinical psychology - modalities and cognitive aging approach</b>
	Valeska Kouzak, Clinical Neuropsychologist, Brazil
14:40-15:00	<b>Title: Outcomes of behavioral, emotional problems and adaptive behavior in children born preterm with very low weight birth at 4 to 5 years of age</b>
	Fabricia Signorelli Galeti, Federal University of São Paulo (UNIFESP), Brazil
15:00-15:20	<b>Title: Does the empirical evidence support the PNES diagnosis?</b>
	Catherine A Carlson, Private Practitioner, USA
15:20-15:40	<b>Title: Investigating the relationship between academic procrastination and academic efficiency in medical students of Mashhad University</b>
	Seyed Saeid, Zamanieh Shahri; Sonia Sayyedalhoseini, Losrios Community College District, USA
15:40-16:00	<b>Title : Expansion of PURA-Related Phenotypes and Discovery of a Novel PURA Variant: A Case Report</b>
	Ralitza H. Gavrilova, Mayo Clinic, USA
16:00-16:20	<b>Title: Cognitive healthcare re-envisioned: An orthomolecular/biochemical approach to diagnosis and treatment</b>
	Albert Mensah, Mensah Medical , USA
16:20-16:40	<b>Title: Latent class analysis of exposure to childhood trauma and health risks among justice-involved youth: An approach towards gender differences</b>
	Richard Dembo, University Of South Florida, USA



Day 02 (November 09, 2021)	
09:00–09:20	<b>Title : Bilateral amyloidoma of the trigeminal nerve causing a progressive trigeminal neuropathy: An unusual presentation of localised AL amyloidosis involving the peripheral nervous system</b> <b>Alexandra Lyons</b> , University Of Queensland, Australia
09:20–09:40	<b>Title: The outcome of eating disorders, pregnancy, childbirth, family support</b> <b>Makino Mariko</b> , Toho-university, Japan
09:40–10:00	<b>Title: Cortical potential associated with jaw-biting movement in the patients with oral cancer after the surgery</b> <b>Ichiro Nakajima</b> , Nihon University, Japan
10:00–10:20	<b>Title: Corticobasal degeneration combined with complex regional pain syndrome type 1</b> <b>Kyung Hee Do</b> , Veterans Health Service Medical Center, South Korea
10:20–10:40	<b>Title: Brain activity underlying olfactory–gustatory synchrony perception using ERPs</b> <b>Tatsu Kobayakawa</b> , National Institute of Advanced Industrial Science and Technology , Japan
10:40–11:00	<b>Title: Chronic lithium &amp; valproate effects on cognitive flexibility: A translational study</b> <b>Anyfandi Eleni</b> , National and Kapodistrian University of Athens Medical School, Greece
11:00–11:10	<b>Break and Refreshment</b>
11:10–11:30	<b>Title : Individualization of the middle cranial fossa approach in the treatment of vestibular schwannoma</b> <b>Maryna Al-Fauri</b> , American University Of Caribbean School Of Medicine, Sint Maarten
11:30–11:50	<b>Title : The biological pathways behind Alzheimer Disease</b> <b>Concetta Crisafulli</b> , University Of Messina, Italy
11:50–12:10	<b>Title : Female perpetrators of rape with particular cruelty</b> <b>Anna Wiecek-Duranska</b> , Maria Grzegorzewska University, Poland
12:10–12:30	<b>Title: The role of radiotherapy in the treatment of primary central nervous system lymphomas</b> <b>Meral Kurt</b> , Uludag University, Turkey
12:30–12:50	<b>Title : Moderate Traumatic Brain Injury: Clinical approach to an inappropriate term</b> <b>Sergio Aguilera</b> , Andres Bello University, Chile
12:50–13:40	<b>Lunch</b>



13:40–14:00	<b>Title: ADHD and impact on language</b>
	<b>Clay Brites</b> , Neurosaber Institute, Brazil
14:00–14:20	<b>Title: Intracranial pressure waveform: history, fundamentals and applications in brain injuries</b>
	<b>Gustavo Frigieri</b> , Brain4care, Brazil
14:20–14:40	<b>Title : Physicians specializing in psychiatry of Mexico: An update 2018</b>
	<b>Diana Guízar</b> , National University Of Mexico, Mexico
14:40–15:00	<b>Title: The Development of PET neuroimaging probes targeting epigenetics</b>
	<b>Changning Wang</b> , Harvard Medical School, USA
15:00–15:20	<b>Title : Why use pre-differentiated cells to address complex multi-factorial neurodegenerative diseases?</b>
	<b>Alex Kopyov</b> , Celavie Biosciences LLC, USA
15:20–15:40	<b>Title : In-tangible matters: Mys-understanding soul in the brain—Ethical implications for post-human evidentialism and the therapeutics of technoneuroism</b>
	<b>Todd DuBose</b> , The Chicago School Of Professional Psychology, USA
15:40–16:00	<b>Title: On the use of a modified kubler-ross model of grief to treat bereavement in schizophrenia</b>
	<b>Bolaji Yoade</b> , Interfaith Medical Center, USA
16:00–16:20	<b>Title: Vitamin B12 supplementation: Preventing onset and improving prognosis of depression</b>
	<b>Prerna Sangle</b> , California Institute of Behavioral Neurosciences & Psychology, USA
16:20–16:40	<b>Title: Social support, identity, &amp; meaning - The psychosocial aftermath of traumatic brain injury</b>
	<b>Gary Senecal</b> , Assumption University, USA



International Webinar on

# Neuroscience and Psychiatry

November 08-09, 2021

**Day 1**

**Oral Presentations**





# Reliably measuring sensory perceptual errors that are prevalent in patients presenting with mental health disorders and considered to be associated with the onset and evolution of mental health disorders

*Ken Ware*

*Neurophysics Therapy Institute, Australia*

## ABSTRACT

Select pieces of standardized resistance gym equipment in a controlled clinical setting provide a stable frame of reference to assist in identifying gross sensory perceptual errors. Several years of observations made during the treatment of patients who presented with long term pathological mental health disorders has revealed a strong link between gross sensory perceptual errors and these patients over reactive sympathetic responses to prescribed non-hostile/noxious self-initiated unilateral stimuli.

The predominate somatosensory experience involved when these patients engage with the various pieces of unilateral gym equipment within a safe supportive environment reveal how these patients sensory generalize their day-to-day psychophysical environmental experiences in a rogue default manner. For instance, under these prescribed and measurable conditions the often-observed bilateral instability of the hemispheres is consistent with the flip-flopping between a left hemisphere dominance and a right hemisphere dominance relative to certain mental health disorders within the bipolar spectrum.

In summary, the integration of environmental stimuli via the association cortices which are largely responsible for the complex processing of input in the primary sensory cortices and the generation of behaviour contains complex sensory processing errors leading to misrepresentations of the real psychophysical features of the environment for these patients. However, by assisting and supporting these patients during ongoing sessions of NeuroPhysics Therapy through sometimes highly confrontational psychophysical moments when identifying and correcting their outstanding sensory perceptual errors and assisting them to develop stable reference points within the grids that the resistance exercise machine afford these patients are able to effectively calibrate their psychophysical responses towards more realistic representations of their environment coinciding with measurable relaxations of their concerning associated symptoms.

## SPEAKER PROFILE:

Ken Ware was founder of Neurotricial Sciences Pty Ltd and NeuroPhysics Therapy and Research and he had been in private practice for almost 30 years, while doing independent and collaborative research. He also presented unique research at 10 major International Science Conferences including neuroscience, physics, psychology and life sciences, which covers a very broad scientific audience. He is Former Mr. Universe 1994, National powerlifting and Bodybuilding champion and record holder. He had published relative publications in 'Frontiers in Clinical Physiology' - 'World Journal of Neuroscience' – 'World Journal of Cardiovascular diseases'. He is former Mr. Universe 1994, National powerlifting and Bodybuilding champion and record holder. He is recipient of Her Majesty, Queen Elizabeth's 'Australian Sports Medal' - in 2000, in recognition for personal contributions to the development of the Australian Sporting Culture.



# Thalamostriatal system controls learning and switching of behaviors

*Kazuto Kobayashi*

*Fukushima Medical University, Japan*

## ABSTRACT

The dorsal striatum, a key structure of the basal ganglia circuitry, receives glutamatergic inputs from many areas of the cerebral cortex and intralaminar thalamic nuclei and dopaminergic inputs from the ventral midbrain. Although the anatomical and electrophysiological properties of thalamostriatal neurons have been characterized, the behavioral and physiological functions of these neurons remain still unclear as compared to the functions of the corticostriatal and nigrostriatal pathways. Although postmortem studies of Parkinson's disease patients show the reduction of thalamostriatal neurons in addition to nigrostriatal dopamine neurons, the influence of intralaminar thalamic degeneration on Parkinson's disease symptoms has not yet been characterized. Two representative thalamostriatal cell groups in the parafascicular nucleus (PF) and central lateral nucleus (CL) project to different subregions of the dorsal striatum in mice, showing unique synaptic and electrophysiological properties. The behavioral roles of these thalamostriatal cell groups have been investigated by using the selective neural pathway targeting and chemogenetic approach. The behavioral analysis of these genetically manipulated animals indicates that PF and CL thalamostriatal neurons play distinct roles in the control of different learning processes, such as the acquisition, performance and flexible switching in response to changed environments.

## SPEAKER PROFILE:

Kazuto Kobayashi has completed his PHD at the age of 30 years from Nagoya University, Japan. He is the head of department of molecular genetics at Fukushima Medical University, Japan. His research interests are devoted to the understanding of the neural mechanisms underlying learning process and motor control through the cortico-basal ganglia-thalamic network and his laboratory also aims to develop new technologies for genetic manipulation of the neural circuitry by using transgenic animal and viral vector systems. In particular, his group has developed a novel technology for conditional cell targeting with a recombinant immunotoxin and further a technology for selective neural pathway targeting by combining this immunotoxin targeting with a viral vector system for highly efficient retrograde gene transfer. He applied these technologies for studying the behavioral and physiological roles of specific neural pathways that constitute the cortico-basal ganglia-thalamic network, focusing on the action selection and behavioral flexibility in rodents. He has over 200 publications that have been cited over 7,000 times and his publication h-index is 48.



# Anti-NMDA receptor encephalitis: A case of atypical acute psychosis with absence of neurological symptoms

*Sarada Devi*

*Tuanku Jaafar Hospital, Malaysia*

## ABSTRACT

Anti-NMDA receptor encephalitis was first described by Dalmau et al where 12 patients were identified presenting with neuropsychiatric manifestations with positive serum & cerebrospinal fluid (CSF) to NMDA receptor antibodies. Symptoms include a highly characteristic set of neurologic deficits and prominent psychiatric manifestations. Misdiagnosis is frequent given the overlap of symptoms with psychiatric manifestations. This is a case of a healthy 26-year-old man with history of polysubstance abuse whom complained of intermittent dizziness, fatigability & myalgia. He also experienced elementary in nature auditory hallucinations which were transient and resolve spontaneously. He was still able to function well. He presented to the Emergency Department weeks later with psychiatric manifestations. CT brain showed no significant abnormalities. He was admitted to the psychiatry ward for further management. Throughout his detention in the ward, he was restrained & isolated due to provocative behaviour. In view of poor response to optimised poly psychotropics MRI brain was done and results showed multiple T2/FLAIR hyperintense foci in both centrum semiovale, right parietal lobe, right frontal lobe & left temporal lobe. He was treated as old infarct secondary to previous illicit drug abuse. Despite being treated with optimal doses and duration of multiple antipsychotics, his psychosis failed to improve. Due to the atypicality of his psychotic episode, he was investigated for anti NMDA receptor encephalitis, of which he tested positive for. He was immediately transferred to the medical ward and was treated with IVIG. He subsequently showed improvement. However, he is noted to have regressive personality changes. The absence of neurological symptoms confounds the detection of this complex syndrome. This case underscores the need for increased awareness and high diagnostic suspicion of this rare clinical syndrome when approaching patients with acute onset of atypical psychosis. Prompt diagnosis is critical as early immunotherapy could dramatically affect outcomes.

## SPEAKER PROFILE:

Sarada Devi obtained her Doctor of Medicine (M.D.) at the age of 25 from First Sechenov Moscow State Medical University, Russian Federation. She has been serving under the Ministry of Health, Malaysia since 2012 and has been practicing in the field of Psychiatry and Mental Health for the past 5 years.

Sarada Devi has worked with the Clinical Research Centre at Queen Elizabeth II Hospital, Sabah where she was involved in research and training of health care workers in conducting clinical research. She has been invited to speak at various workshops in the field of clinical research and psychiatry. In 2018, she obtained third place for poster oral presentation titled Risk Factors Associated with Deliberate Self Harm among Patients Referred to the Liaison Psychiatry Unit, Hospital Tuanku Ja'afar Seremban presented at 6th Negeri Sembilan Research Day.

She is also actively involved in organizing state level events to raise awareness on mental health. Sarada Devi has received multiple awards for academic and service excellence. She has deep interest in clinical research and continues her research in psychiatry. Besides, her commitments to work, she has completed multiple half marathons in Malaysia and enjoys hiking and obstacle course races.



# Screening for depression in movement disorders clinic

*Parviz Bahadoran*

*Princess Royal Hospital, UK*

## ABSTRACT

**Background:** Depression is the most common and often under-recognised neuropsychiatric complication of Movement Disorders (MD).

**Objective:** The aim of this study was to assess the utility and accuracy of a brief screening measure such as the visual analogue 'Emotions Thermometer' (ET), or the Neurological Disorders Depression Inventory for Epilepsy (NDDI-E) for depression in MD patients.

**Methods:** Patients attending a regional MD outpatient clinic completed the Emotions Thermometer 7-item tool (ET7), the Hospital Anxiety and Depression Scales for Depression and Anxiety (HADS-D, HADS-A) and the NDDI-E. We used the Major Depression Inventory (MDI) based on ICD-10 and DSMIV as our gold standard for diagnosing depression and comparing the performance of ET7, its briefer version ET4 and its individual sub-scales (E1 to E7), HADS and NDDIE. Sensitivity, specificity, positive predictive value, negative predictive value and receiver operating characteristic curves were calculated to compare the performance of the screening tools.

**Results:** In total, 188 patients were included in the analysis. The most accurate tools as determined by the Receiver Operating Characteristics (ROC) curve were HADS-D for ICD-10 depressive episode and DepT (Depression Thermometer or E3) for DSM-IV major depression. ET4 performed well as a 'rule-out' screening measure for both DSM-IV and ICD-10 depression and its performance was comparable to HADS without the need for clinician scoring. The briefer ET4 also performed almost as well as ET7.

**Conclusion:** Emotions Thermometer and NDDI-E are quick and reliable screening tools for depression in the MD population and are comparable to HADS. We suggest routine use of the visual analogue ET4 as it is briefer, requires less time to complete and does not require scoring by clinicians. It has the potential to be widely implemented across busy neurology clinics to assist in depression screening.

## SPEAKER PROFILE:

Parviz Bahadoran is a consultant neuropsychiatrist and liaison psychiatrist in Sussex, UK. He received his MD from Tehran University and an MSc in Addiction from the Institute of Psychiatry, Psychology and Neuroscience, London. He has trained in psychiatry at South London & Maudsley and South West London & St. Georges.



# Rehabilitation robotics: A step ahead in neurorehabilitation

*Sucheta Saha*

*Institute of Neurosciences Kolkata, India*

## ABSTRACT

'Rehabilitation' means 'To make able again'. Rehabilitation physicians are working worldwide with a constant goal of making disabled people able again. 'Rehabilitation Robotics' is the most advanced tool in their hands, where neuroplasticity plays the pivotal role harnessing the principals of neurorehabilitation and technology.

Development of Rehabilitation Robotics started in early 1990s and over the last few decades it has become a reliable treatment modality in various neurological and musculoskeletal disorders, which can prevent disability if applied early in the course of the disease. It can also slow down the progression of the disability or reverse the residual neuro-muscular deficits. It has been used in several neuro-muscular diseases, like- Cerebrovascular accidents, Traumatic brain injuries, Spinal cord injuries, Parkinsonism, Cerebral Palsy etc. and found to be beneficial for the patients in many clinical studies. A study done by the speaker herself showed that Robotic Therapy can be an effective adjunct to the conventional rehabilitation program in Stroke. That was the first published study in India on Rehabilitation Robotics. Robotic devices provide high-intensity, task-oriented training with performance feedback. All these stimulate the adaptive plasticity of brain and facilitate motor relearning. Many Robotic systems are available for rehabilitation separately for the upper and lower extremities. They are- Armeo, Lokomat, Rewalk and so on. There are also Robotic prostheses, which can replace the lost part of the body, like- Bionic hand, Luke Arm etc.

## SPEAKER PROFILE:

Sucheta Saha has completed her MBBS in the year 2007 from Calcutta University, India. She has done Diploma in Medical Radiotherapy (DMRT) from West Bengal University of Health Sciences in 2009 and MD in Physical Medicine & Rehabilitation in 2015. She secured Gold Medal for standing first in MD in Guru Govind Singh Indraprastha University, New Delhi, India. She has also received the prestigious 'Indian Association of Physical Medicine & Rehabilitation Gold Medal' for best research paper in 2014. She has undergone observership in Palliative care in AIIMS, New Delhi. Currently she is working as a consultant rehabilitation physician in Institute of Neurosciences Kolkata, India. She has 5 publications in indexed journals and she has been serving as a reviewer of two reputed journals. She is a part of many ongoing research projects. Recently, she has done Fellowship in Interventional Pain Management and achieved the first position. She has presented her talk in many national & international conferences and webinars. She is the life member of Indian Association of Physical Medicine (IAPMR) & Rehabilitation, Indraprastha Association of Physical & Rehabilitation Medicine (IPARM) and Indian Federation of Neurorehabilitation (IFNR). Her area of special interest is Rehabilitation Robotics.



# A rare case of isolated intramedullary spinal cord cysticercosis

*Suchi Shah*

*AMC MET Medical College, India*

## ABSTRACT

Neurocysticercosis is a parasitic disease often involving central nervous system by *Taenia solium* and is commonly seen in developing countries. Majority of these cases have either isolated brain involvement or combined involvement of brain and spinal cord. Isolated involvement of spinal cord is very rare. We report a case of 20-year-old Asian, Indian man who was hospitalised for progressive weakness in all extremities. Magnetic resonance imaging showed a well-defined, round, thick-walled, peripherally enhancing lesion in intramedullary region, a provisional diagnosis of isolated cysticercosis of the intramedullary region of the spinal cord was made. The patient improved upon needle aspiration of the cystic lesion after surgery, which on post-surgical histological examination confirmed the diagnosis by showing the presence of cysticerci.

## SPEAKER PROFILE:

To be added.



# Components of soft computing for epileptic seizure prediction and detection

*Suguna Nanthini*

*SAAI centre for research, India*

## ABSTRACT

In past two decades technology advances have been made on automated epileptic seizure detection and prediction. Numerous algorithms have been introduced for high degree of accuracy of prediction. Components of soft computing have the cognitive ability to leave effectively and help to develop an automated expert systems in order to perform difficult tasks. These systems have been trained and tested using soft computing techniques. These systems are required in all kinds of fields and are especially very useful in medical diagnosis. Components of soft computing include machine learning, fuzzy logic, evolutionary computation and probabilistic theory. Machine learning systems are used to predict epileptic seizures. Electroencephalograph (EEG) signal acquisition, signal processing, feature extraction and signal classification are the machine learning systems. The important step in EEG classification is feature extraction. Early diagnosis of disease can save the life of a person. A machine can learn new things. It can adapt to new situations. It has an ability to learn from the storage information. So clean data are greater than more data, it means quality of data is important rather than the quantity of data. This will help the machine to learn easily from data. Problem-solving is a challenging task for intelligent entities. It has been proved that “a machine can learn new things.” Machine learning techniques include artificial neural networks (ANNs), perceptron and support vector machine (SVM) whereas evolutionary computations include evolutionary algorithms, meta-heuristic and swarm intelligence. Just like human brain, a machine is capable of acquiring knowledge from data. It is developed from the field of artificial intelligence (AI). In order to build intelligent machines, we need machine learning techniques. Another advance type of machine learning is deep learning, which is the subset of AI. Deep learning can analyse unstructured data where machine learning can't easily do.

## SPEAKER PROFILE:

Suguna Nanthini has completed her PHD at SASTRA University, India. She is the private PHD consultant at SAAI centre for research. She has 7 research paper publications regarding epileptic seizure detection and that have been cited around 40 times, and her publication h-index is 4. She is the author for the chapter “Components of Soft Computing for Epileptic Seizure Prediction and Detection” published in Intechopen 2019.



# Spontaneous intracranial hemorrhage: A sign of cavernous angioma diagnosis in pediatric age group

*Sayed Mohammed Jawad Alwedaie*

*Independent scholar, Bahrain*

## ABSTRACT

Cerebral Cavernous Malformation (CCM) is a developmental abnormality of blood vessels that supply the brain. It is composed of large, adjacent capillaries which contain little or no neural tissue. They mostly occur in the supratentorial region. However, the occurrence of these vascular lesions can be seen at different sites of the Central Nervous System (CNS). The prevalence of CCM is estimated to be 0.4% in the general population and among the affected patients, 18.7% have multiple lesions. However, about 30-50% of CCM cases are asymptomatic and are found incidentally. Here we report a case of an eight-year-old girl with a massive hemorrhagic presentation of a left parieto-occipital CCM.

## SPEAKER PROFILE:

Sayed M J Alwedaie is a medical graduated from RCSI-Bahrain (2019). He spent one year as an intern doctor in SMC hospital in Kingdom of Bahrain. He is the co-author of 4 medical articles, with neuroscience being his particular interest.



# COVID-19 crisis calls for psychological actions accessible within the nursing homes: Brief Mindfulness-Based Interventions for Seniors that improve emotional distress and cognitive functions

*Daniela Aisenberg Shafran*

*Ruppin Academic Center, Israel*

## ABSTRACT

The COVID-19 crisis enforces isolation of seniors, putting them at higher risk for depression and emotional distress. Treatment options are diminished during quarantine, increasing age-related effects and even cognitive changes. Recently, studies showed the potential for Mindfulness-Based Intervention in improving cognitive functioning and psychological well-being among healthy elderly. Standardized courses such as MBSR and MBCT are not suited to the majority of the elderly: First, interventions are too long and demanding, physically and cognitively. Second, they require an instructed counselor for delivery and third, very expensive in regular days. Hence, the purpose of this study was to examine whether similar improvements in emotional distress and cognitive functioning can be achieved through a brief intervention, delivered by workers in nursing homes. The study itself was conducted before the beginning of the COVID-19 crisis. A course of 8 half-hour sessions each (MBIS: Mindfulness-Based Intervention for Seniors) was employed in two versions: 1) An 8-week course with weekly meetings 2) A 4-week course that with 2 sessions per week.

Depression and mood were measured, as well as cognitive abilities in the Simon's task. In addition, the level of Mindfulness skills was measured before and after the interventions. Results showed that brief MBIS succeeded in improving mindfulness Non-reactivity and produced change in Acting with awareness and Non-judging facets. More importantly, the brief intervention, in both frequency versions, improved the level of depression and mood (BDI and PHQ-9). At the cognitive level, an adaptive sequential effect appeared after the intervention in the 8-week MBIS group. These findings indicate the effectiveness of a short, simple, mindfulness-based intervention, in improving depression and psychological distress, as well as improving cognitive control over time. This is a significant development in the field of treatment solutions for the elderly, with a ready-to use protocol to administer in isolated nursing homes.

## SPEAKER PROFILE:

Daniela Aisenberg Shafran is an expert clinical psychologist, working in a unique program qualifying clinical psychologists in psychotherapy for adults and elderly. Her research deals with identifying cognitive abilities that decline with age and seeking methods to improve or moderate that decline. As an MA supervisor, She leads students in their research, exploring effects of short mindfulness-based interventions on cognitive performance and psychological distress. Her goal is to find low-cost interventions that can be easily implemented for a wide range of old adults, to improve their daily activities and life quality.



# Person in transitive and virtual space: New challenges of modality

*Tatiana Martsinkovskaya*

*RGGU, Russian Federation*

## ABSTRACT

The new challenges of the modern civilization are the transitive society and network virtual space. Nowadays we faced with one more problem - that is Covid-19 and pandemic situation which add the new aspects to the challenges of transitivity and virtual space. All these factors influence the cognitive, social and personal development of people. The psychological content of the concept of a transitive society is associated with the multiplicity of social contexts, variability and uncertainty. Two types of transitivity – crisis and fluid- can be compared with different ways of communication - on-line and off-line. The pandemic situation changes the psychological phenomenology of the new technological space and attitudes towards different sides and manifestations of technology, especially the attitude towards new ways of communication and medicine. The similarities and differences between psychological phenomenology and determinants in network and transitive spaces show that both can be considered as a difficult life situation for many people. In the situation of crisis transitivity the need for emotional protection and comfort increases. This fact raises the status of the family in the structure of socio-cultural identity. Modern challenging situation reduces the socialization potential of respondents in a multicultural space. It can be assumed that uncertainty and variability decrease the emotional well-being in a multicultural rather than in a mono-cultural space. It must be considered the fact of a significant discrepancy between the assessment of concrete people of a foreign culture and the overall assessment and attitude to a large group of people of a different culture and language. We can conceive that the psychology of everyday life can be a peculiar strategy of coping with the situation of the multiplicity and variability of contexts, which makes it possible to restore the daily life identity and integrity of the life path.

## SPEAKER PROFILE:

Tatiana Martsinkovskaya has completed her PhD in 1990 at Moscow State University and 5 years later, in 1995 became professor of psychology, also at Moscow State University. Till 2016 year worked at Psychological institute as the director of department. Now is the director of Institute of Psychology, Russian state university for Humanitarians (RGGU-RSUH). She has over 300 publications that have been cited over 3700 times and her publication H-index is 27. She has several grants and is the editor-in-chief in two journals as well as the member of editorial board of reputed journals.



# PYCR2 mutation causing hypomyelination and microcephaly in an Indian child

*Preeti Srivastava*

*Tata Main Hospital, India*

## ABSTRACT

Hypomyelinating leukodystrophy (HLD) represents a group of clinically overlapping but genetically heterogeneous diseases. This group of disorders has the improper formation of myelin sheaths in the Central Nervous System (CNS), resulting in abnormal white matter, with characteristic MRI findings and clinical presentations of mostly motor dysfunction with variable cognitive and language impairment. We report a case of a three-year-old boy with global developmental delay, dysmorphic facies, motor signs, progressive microcephaly and failure to thrive. The child was born of a non-consanguineous marriage. All basic investigations and metabolic tests were normal. Magnetic resonance imaging (MRI) of the brain showed hypomyelination of the deep and subcortical white matter, appearing as hyperintense T2 and isointense T1-weighted images, cerebral atrophy with the thinning of the corpus callosum, with normal cerebellum, brainstem and deep grey nuclei. Further genetic testing in the form of clinical exome sequencing revealed compound heterozygous mutation of the PYCR2 gene and matching the clinical phenotype with the genotype. Therefore, a final diagnosis of Hypomyelinating leukodystrophy-10 was made. There is a wide range of aetiologies for debilitating neurologic disorders, which have common and overlapping clinical presentations. Advances in the field of genetics, growing awareness and availability of genetic tests help in a better workup of complex neurological cases. A precise diagnosis is useful in outlining the course, treatment (if available) and prognosis of the disease to parents and plays a vital role in planning future pregnancies.

## SPEAKER PROFILE:

Preeti Srivastava has done specialisation in paediatrics (DNB Pediatrics, NBE New Delhi) in 2010 followed by clinical fellowship in paediatric neurology from K K Children's Hospital, Singapore. She has also qualified the ASEPA-ASNA EEG Certification exam. She is currently working in an Industrial Hospital with limited resources named Tata Main Hospital in a small town called Jamshedpur in India. She has developed paediatric neurology services (only one in the region) there and is diligently working to expand the services and help children with neurological disorders. She is also the coordinator for post-graduation training program in pediatrics and is actively involved in teaching the paediatric residents. She has 7 publications in peer reviewed indexed journals.



# Perceived changes of specific attitudes, perceptions and behaviors during the Corona pandemic in Germany

*Ruth Helena Lueg*

*Clinical Psychotherapist, Germany*

## ABSTRACT

The German language has only one word for both “safety” and “security”. It is called “Sicherheit” and can be used either way. Germans need lots of “Sicherheit”. For that we are well known, for our perfectionism and efficiency. But, what happened when Covid-19 arrived and we lost control and nothing really helped to stop the virus? As in almost every country in the world, the severity of the COVID-19 pandemic brought Germany a complete social and economic lockdown, leading to fears, insecurity and isolation.

Stay at Home Orders, unemployment, loneliness, economic shutdown, climbing death rates, masks and social distancing were the all-day news. Did bereavement, isolation, loss of income and fear trigger mental health conditions or exacerbate existing ones? The daily structure changed dramatically, but also the mentality and our concept of the meaning of life. Resilience was a must for survival. Research shows why many emerged from this stressful experience even stronger than before.

The Corona pandemic and related social and individual restrictions may have changed our priorities. The pandemic forced a rethink; let's talk about the changes of specific attitudes, perceptions and behaviors during the Corona pandemic and their relation to wellbeing. The Covid-19 pandemic is one of the greatest challenges in the history of the Federal Republic of Germany – primarily as a health issue, but also as an economic challenge, this virus is also a great stimulus package for the future.

## SPEAKER PROFILE:

Ruth Helena Lueg was graduated as a medical doctor from University of Santiago, Chile. The doctoral thesis in the field of adolescent mood disorder. From 1970-1980 specialization in internal medicine in Roy H. Glover Hospital, American Hospital from Anaconda Mines in Chuquibambilla, Chile, also there worked in the desert of Atacama as scientific researcher in the WHO research for high-altitude-related illnesses (Profesor Santolaya). From 1980-1993 specialization in psychiatry and psychotherapy in the “Landes Klinik Bedburg-Hau”, NRW, Germany. This was the largest psychiatric hospital and health mental center in Europe with 3,500 Patients. She graduated as a specialist in internal medicine and psychiatry in 1993, which allowed me to practice my professional development in psychosomatic care German (Ärztammer Nordrhein AKNO Bundesärztekammer), fully licensed for all insurances of medical care (German state-license) board certification. She continued post graduated training in psychotherapy, psychiatry, neuroscience in Düsseldorf, Munich, Aachen, Tübingen, Köln and Freiburg Universities, also in Canada, Australia, Italy and Spain. She have lived and worked abroad for many years. Her husband was an international consulting engineer, so we have travel around quite a bit. In 1993, she published her research and clinical work focused identification, characterization and treatment of young men with addiction disorders, including the prodrome, first episode, multi-episode and refractory illness and phase of psychotic and mood disorders.

She developed a new professional concept for the treatment of addiction, including neurobiological approaches to a better understanding of human nature and human values and the re-activation of self-healing powers from a neurological perspective. This concept had a great response and acceptance with the German medical authorities. (Rheinische Arbeitsgemeinschaft für Rehabilitation (RAG)). With her project, the German health system gave appropriate financial support and approval to open a clinic for psychosomatic treatment under her services. She opened this clinic in 1994 and managed it until my retirement in 2015. The work in this clinic was her greatest professional success and she was most fortunate to have in her staff numerous specialists, medical doctors, psychologists, social workers, ergo therapists, music therapists, etc. who did follow her therapeutic program and shape it with great enthusiasm. Her clinic was a national and international training space for numerous young and committed health employers. The internal and external further training was fully my hands and we designed numerous workshops. We had cooperation with numerous institutes for psychiatric and psychotherapeutic training and also from the Nijmegen University in the Netherland.

She is still full time working in my medical office, When Covid-19 virus arrived she dedicated all her time to psychotherapy and psychiatry through today.



# Non-pharmacological approach in degenerative neuro-psychiatric pathologies

*Andrés J Ursa Herguedas*

*Clínica Naturista e Instituto de Medicina Integrativa, Spain*

## ABSTRACT

Although modern Pharmacology and the hope of Pharmacogenomics with “à la carte” drugs represent great advances in current medicine, there are still numerous challenges that we face in developed societies where chronic patients reach advanced ages with therapeutic intervention existing. This great challenge has yet to be resolved which are the best options for dealing with diseases of civilization such as cardiocirculatory diseases, cancer, diseases of the psychic sphere, etc., or those due to human intervention (iatrogenesis, contamination atmospheric, climate change, etc.)

Neurodegenerative diseases (NDD), such as Alzheimer’s disease, multiple sclerosis, etc., many of them of unknown cause, pose a huge concern for the suffering that it entails for the patient and the family, the impotence of doctors to be able to deal with its course satisfactorily, due to the economic cost it entails for the family and the health systems. Faced with the growing avalanche of NDD, governments have to provide financial and human resources for public health and social and health services, with the risk of shaking the health systems of developed countries. As the cause of NDD is unknown, preventive measures involve adopting a healthy lifestyle with foods that do not promote inflammation, physical exercise, learning stress neutralization techniques, proper management of emotions, etc.

The climate change in which we are immersed will undoubtedly be the greatest challenge that Humanity will have to face. The current SARS-CoV-2 pandemic is possibly only the beginning of what may come. Health professionals, in addition to medical-scientific-technical knowledge, will require additional psychological preparation. This preparation is not acquired in the training period, so it will have to be implemented in health sciences studies.

## SPEAKER PROFILE:

Andrés J Ursa Herguedas is graduated in medicine and surgery from the University of Valladolid. Received his doctor of medicine and surgery from the Complutense University of Madrid, with a “cum laude” qualification. He is now Director of the Naturist Clinic and Institute of Integrative Medicine in Valladolid. Teaching official of the Junta de Castilla y León (health area). Member of the Illustrious Academy of Health Sciences Ramón y Cajal (Madrid). He is Author of more than 35 scientific articles in national and international journals. He is Author of two books: From Hippocratic Medicine to Integrative Medicine (Spanish Academic Editorial) and Meditation, Well-being and Health (University of Valladolid). Author of several book chapters at IntechOpen (London). National and foreign speaker in more than 40 interventions. He also received Dr. Gómez Ulla Award for Health Excellence (Madrid, 2019).



# BDNF protein and anxiety disorders

*Tatiana Marins Farias*

*UNIME, Brazil*

## ABSTRACT

An increase in the prevalence of Anxiety Disorders (ADs), in individual, social and economic losses, due to the high prevalence, chronicity and disability of the individual besides the growth of multiple environmental stressors that are related to lifestyles, has been observed, which are all more harmful to one's health and associated with genetic inheritances, among other factors. This reality may contribute to the risk of losing neurological functions, for example, cognition and memory, as well as to the development of more severe psychiatric disorders, with high levels of heritability and risk of suicide. Brain-Derived Neurotrophic Factor (BDNF) is one of the most abundant neurotrophins in the human brain. Studies with neurotrophins allowed the introduction of one more hypothesis, called neurotrophic hypothesis, that would explain the physiopathology of Mental Disorders (MD), where deficits of neuroplasticity would occur and cause atrophy of certain regions of the brain (mainly cortical and the hippocampus), contributing to the development of mental disorders. Knowing the neurobiology of the ADs, as well as its relation to BDNF levels, may contribute to preventive actions regarding the said disorder in the general population. The objective of this chapter is to analyze the relation between levels of BDNF and AD.

## SPEAKER PROFILE:

Graduated in Medicine at the Bahiana School of Medicine and Public Health (1998). Specialist in Preventive and Occupational Medicine in 2001, when did an internship at the University of Massachusetts, in Lowell (MA), in the Department of Work Environment (2001). Master in Medicine and Health from the Federal University of Bahia (2004). Specialist in Medical Expertise and Legal Medicine (2014) by the Brazilian Association of Legal Medicine and Medical Expertise, specializing in Psychiatry at the University Center Philadelphia (2018). Professor, for ten years, of undergraduate health courses (teaching research Methodology and health and safety at work), in addition to Postgraduate courses such as: Occupational Medicine and Medical Expertise. Federal Medical Expert of the Ministry of Economy, where she was a member of the Medical Ethics Committee and lectured on prevention and health promotion by the Quality of Life at Work Service. Professor of the Medicine Graduation at UNIME, in Lauro de Freitas-BA and in the medical skills laboratory, teaching psychiatric semiology. Professor of the Post-Graduation in Safety and Labor Engineering at the Federal University of Bahia. Participated in the elaboration of the self-care project for the UNIME medical students. Researcher in Mental Health, financed by FUNADESP, having published the chapter "BDNF Protein and Anxiety Disorders", with 05 co-authors in the book Neurological and Mental Disorders. Recently, completed her training in Foundations of Lifestyle Medicine Review and has been dedicated to lifestyles studies, neuroinflammation and mental health.



# Biofeedback in clinical psychology - modalities and cognitive aging approach

**Valeska Kouzak**

*Clinical Neuropsychologist, Brazil*

## ABSTRACT

**B**iofeedback is a psychophysiological approach in which a technological tool provides physiological information to an individual in order to inform and consequently change its operation to a better condition. That is, biofeedback is a cognitive and behavior technique that informs an individual of their own physical state and change. It is applied to many psychological conditions, but mostly to anxiety, depression and ADHD with good results. In addition, it is applied to healthy populations in order to manage stress and enhance performance.

In this talk I will explain the biofeedback modalities applied to clinical psychology, such as Galvanic Skin Response (GSR), respiratory biofeedback, Heart Rate Variability (HRV) and neurofeedback. Highlighting how they change our physiology and in which psychopathologies they have better results. Moreover, I will significantly approach the neurofeedback technique applied to cognitive aging as a resource to cognitive reserve with an example of research that might apply to a clinical setting to a healthy population.

## SPEAKER PROFILE:

Valeska Kouzak is a clinical neuropsychologist at private practice and PHD research in neuroscience and Behavior at University of Brasília - Brazil. She completed her master degree in neuroscience and behavior at University of Brasília- Brazil. Specialist in human cognition and neuropsychology at University of Edinburgh, Scotland, Specialist in perinatal health and baby development at University of Brasília- Brazil. Major in Psychology at the University Center of Brasília- Brazil.



# Outcomes of behavioral, emotional problems and adaptive behavior in children born preterm with very low weight birth at 4 to 5 years of age

*Fabricia Signorelli Galeti*

*Federal University of São Paulo (UNIFESP), Brazil*

## ABSTRACT

**Introduction:** Preterms are all new born before 37 gestational full weeks. According to World Health Organization, every year 15 million babies are born prematurely, around the world. Prematurity and low weight are important cause of infant mortality and morbidity. These newborns are vulnerable to present disabilities causing impairment in different stages of life.

**Objective:** Assess and compare the frequency of emotional/behavioral problems and adaptive behavior in children born preterm/very low weight and full term/normal weight.

**Method:** Cross-sectional study with convenience sample assessing the performance of 2 groups: 23 children born preterm (PT) with weight below 1500 g. and 22 children born full term (FT), both groups composed by male and female by 4-5 years old. Congenital major malformation, genetic syndrome and severe motor, visual and hearing disabilities were excluded. Collected data includes assessment of emotional/behavioral problems through SDQ and adaptive behavior through Vineland-II.

**Results:** Percentage with total difficulties in SDQ (PT 13%, FT 18,2%,  $p=0,474$ ), hyperactivity /inattention (PT 52,2%, FT 27,3%,  $p=0,080$ ), conduct (PT 26,1%, FT 18,2%,  $p=0,391$ ), emotional (PT 30,4%, FT 22,7%,  $p=0,559$ ) and peer relationship (PT 4,3%, FT 31,8%,  $p=0,020$ ). Adaptive behavior delay: adaptive behavior composite (PT 47,8%, FT 18,2%,  $p=0,035$ ), communication (PT 52,2%, FT 22,7%,  $p=0,042$ ), daily living skills (PT 30,4%, FT 22,7%,  $p=0,559$ ), socialization (PT 47,8%, FT 45,5,  $p=0,873$ ), motor skills (PT 30,4%, FT 18,2%,  $p=0,339$ ), fine motor skills (PT 52,2%, FT 22,7%,  $p=0,042$ ). Low maternal education increased the risk of total difficulties in SDQ (4,387, 95% CI, -0,459 to 9,234,  $p=0,075$ ), conduct (1,288, 95% CI, -0,128 to 2,704,  $p=0,073$ ), hyperactivity/inattention (4,243, 95% CI, 1,643 to 6,843,  $p=0,002$ ) and decreased score in daily living skills (-8,243, 95% CI, -16,221 to -0,266,  $p=0,043$ ). The male sex is associated with higher hyperactivity/inattention (2,377, 95% CI, 0,512 to 4,243,  $p=0,014$ ), decreased communication (-7,180, 95% CI, -12,411 to -1,948,  $p=0,008$ ) and socialization (-4,423, 95% CI, -8,938 to -0,092,  $p=0,055$ ). Chi-square or Fisher's exact test compared the categorical variables. The factors associated with developmental and behavior/emotional problems were analyzed by linear regression. Statistical significance was established at  $p < 0,05$ .

**Conclusion:** Children born premature are vulnerable to developmental, emotional/behavioral problems, increased by low maternal educational. Therefore the identification and early intervention acting directly with preterm and familiar environment are necessary to minimize future sequelae.

## SPEAKER PROFILE:

Fabricia Signorelli Galeti has 15 years of experience as a psychiatrist, specialized in childhood and adolescent psychiatry at the State University of Campinas where she is a member of the Preschoolers Developmental Assessment Outpatients Clinic. She completed Masterdegree in developmental disorders and she is currently a psychiatrist and researcher at the Autism Spectrum Disorder Clinic from Mackenzie Presbyterian University and at the Preterms Outpatients Clinic at the neonatal division from the Federal University of São Paulo. International Membership American Academy of Child and Adolescent Psychiatry and member of the Scientific Board of the Brazilian Institute of Practical Pharmacology.



# Does the empirical evidence support the PNES diagnosis?

*Catherine A Carlson*

*Private Practitioner, USA*

## ABSTRACT

Psychogenic Non-Epileptic Seizures (PNES) are defined as paroxysmal episodes which clinically resemble epileptic seizures (ES) but unlike the latter, do not show an epileptiform discharge on ictal vEEG electrodes. The absence of an epileptiform discharge is interpreted as proof that the seizure is not epileptic and thus, it presumably has a psychological origin. For decades, the vEEG has been hailed as the 'gold standard' for distinguishing PNES from ES but not all ES register on vEEG electrodes. Frontal lobe seizures have a reputation for eluding scalp and even intracranial electrodes. An ES that is not 'close enough' to an electrode will not register on the electrode and that 'distance' can translate into a diagnostic error- PNES rather than ES. Decades of research shows that the PNES and ES patient populations are strikingly similar and 'psychogenic' (aka functional) disorders are still conflated with intentional feigning. If most seizures labelled PNES were in fact ES that failed to register on predominantly scalp electrodes, the empirical evidence would look the same as it does today. Simply inserting ES for PNES seamlessly accounts for the bulk of empirical findings. The law of parsimony concludes that the PNES patient population consists of patients with epilepsy and a smattering of Factitious Disorders. It further concludes that the often disabling modern condition known as 'PNES' is a diagnostic entity that does not exist.

## SPEAKER PROFILE:

Catherine Carlson, Psy.D., L.P., earned a Psy.D. from Argosy University in 1994 and has been a forensic psychologist for over 20 years. She has provided forensic psychological services for adult, criminal and family courts for the State of Minnesota since 1995. She has expertise in the identification of mental illness, character pathology, substance use/disorders, organicity, intellectual disabilities and malingering. She spent over 4 years at the Minnesota Security Hospital, where she also provided clinical services. She has evaluated over 5000 defendants/respondents and testified to her opinions on many occasions. As a court-appointed examiner, she has had access to records not readily available to other examiners.



# Investigating the relationship between academic procrastination and academic efficiency in medical students of Mashhad University

*Seyed Saeid, Zamanieh Shahri; Sonia Sayyedalhoseini*

*Losrios Community College District, USA*

## ABSTRACT

**Introduction:** Academic procrastination is common among students during their studies and graduation and it means the tendency to postpone studying responsibility. The aim of this study was to investigate the relationship between academic procrastination and academic efficiency in medical students of Mashhad University

**Materials and Methods:** A total of 433 medical students in internship and physiopathology were included in the study. The Rothblum Student Postponement Scoreboard was used to evaluate the purpose of procrastination and the Wood and Lock Schedule was used to evaluate and determine individual effectiveness. Data were then analyzed using statistical tools.

**Results:** 267 students (62.5%) were girls and 162 students (37.5%) were boys and 3.8% were single and 36.9% were married. The average academic efficiency was 90.7 with maximum 153 and minimum 46. There was a statistically significant relationship between academic procrastination and academic efficiency ( $p < 0.05$ ). Postponement of education significantly reduced academic efficiency and academic achievement was more affected in girls and married couples by academic deferment.

**Conclusion:** There is a significant relationship between academic procrastination and academic efficiency. Decreasing academic procrastination can be effective in improving academic efficiency and vice versa.

## SPEAKER PROFILE:

Prof. Dr. Seyed Saeid, Zamanieh Shahri and Prof. Dr. Sonia Sayyedalhoseini is faculty member in California Northstate University, CNSU as well as university Professor in Losrios Community College District, in USA. Prof. Dr. Seyed Saeid, Zamanieh Shahri and Prof. Dr. Sonia Sayyedalhoseini is editorial board member of International Journal of Gynecology and Women's Health Research in Sciforschen journals in California as well as editorial board member of Journal of Women's Health care and Issues, JWHI and Groot Journal of Gynecology and Women's Health. Prof. Dr. Seyed Saeid, Zamanieh Shahri and Prof. Dr. Sonia Sayyedalhoseini is also, faculty peer reviewer in sciforschen Medical Journal of Diabetes and Research, in California. Prof. Dr. Seyed Saeid, Zamanieh Shahri and Prof. Dr. Sonia Sayyedalhoseini is research assistant in UC Davis imaging research center, IRC and member of American Federation of Teachers, AFT, Losrios College Federation of Teachers, LRCFT and Faculty Association of California Community College, FACCC.

Research interest includes: Imaging Research, Interventional Radiology and Cardiology, Breast Cancer, Chemotherapy and Radiotherapy.

Prof. Dr. Seyed Saeid, Zamanieh Shahri and Prof. Dr. Sonia Sayyedalhoseini is editorial board member of "Payam Javan" magazine in Bay Area and Sacramento in California as well as editorial board member of Ben Ali Shriner International Group for help and support Shriner's Children Hospital.

Prof. Dr. Seyed Saeid, Zamanieh Shahri and Prof. Dr. Sonia Sayyedalhoseini is so active and dedicated to research field and published many articles and textbook. Some of them which were published recently include:

1. "Investigating the Relationship between Academic Procrastination and Academic Efficiency in Medical Students of Mashhad University" on 2/4/21
2. "Use of Medical Micro and Nano Robots in Telemedicine in COVID-19 Pandemic" on 1/27/21
3. "A Comparative Study of the Frequency of PTSD in Women Undergoing NVD and C-Section" on 1/8/21
4. Tissue Separation in Radiology Images with the Help of Image Segmentation" on 12/18/20
5. "The Evaluation of Gene Oct4 Expression as a New Tumor Marker in Pancreatic Tumor and Non-Tumor Cell Lines" on 11/24/20
6. Translation of "Guide to Radiological Procedures, Interventional Radiology" textbook 2/2/21
7. Translation of "Aids to Radiological Differential Diagnosis" textbook 1/8/20

Prof. Dr. Seyed Saeid, Zamanieh Shahri and Prof. Dr. Sonia Sayyedalhoseini has a variety of other skills and activities which includes: Member of Persian Traditional Music Band, Member of Persian Poetry Night Association, Author of Monthly Articles on Persian Traditional Musical instruments, Author of Monthly Articles on Mythical History of Persia, Author of Monthly Articles on Persian Culture Customs National Traditions.



# Expansion of PURA-related phenotypes and discovery of a novel PURA Variant: A case report

*Ralitza H Gavrilova*

*Mayo Clinic, USA*

## ABSTRACT

Pathogenic variants in the purine rich element binding protein A, PURA, are associated with a rare autosomal dominant neurodevelopmental disorder, characterized by neonatal hypotonia, severely delayed psychomotor development, early-onset feeding difficulties and respiratory insufficiency (MIM# 600473). PURA-syndrome has been associated with either loss-of-function or missense de novo variation in PURA. We recently evaluated an 18-year-old male with multiple features including delayed motor milestones, absent speech, intellectual disability, hypotonia, seizures, failure to thrive. Clinical whole exome sequencing revealed a novel variant, c.190A>T (p.Lys64\*;) in PURA that was absent in the proband's mother. In addition to the well-established phenotypes associated with variation in PURA, the proband also exhibits delayed bone age, significant short stature, delayed puberty, cortical blindness and kyphoscoliosis. It is therefore possible that the above PURA variant may be responsible for these novel features and thus expanding the PURA-related phenotype spectrum.

## SPEAKER PROFILE:

Ralitza H Gavrilova, M.D., is an expert in clinical genomics and neurology whose research areas of interest are in the fields of mitochondrial medicine and neurogenetics. Gavrilova studies mitochondrial myopathy, multisystemic mitochondrial diseases, Friedreich's ataxia and neurodegenerative conditions that involve mitochondrial dysfunction, such as dementia. Another area of Gavrilova's clinical focus is hereditary leukodystrophies. Gavrilova's research goal is to improve understanding of mitochondrial dysfunction in disease.



# Cognitive healthcare re-envisioned: An orthomolecular/biochemical approach to diagnosis and treatment

*Albert Mensah*

*Mensah Medical, USA*

## ABSTRACT

**M**ensah Medical is an internationally renowned clinic that specializes in the treatment of biochemical imbalances and the cognitive (and physical) disorders caused by those imbalances. Founded in 2008, Mensah Medical treats thousands of patients each year using targeted nutrient therapy, an all-natural, non-pharmaceutical approach to addressing the imbalances that lead to mental and psychological conditions such as ADD/ADHD, Autism, Anxiety, Depression, Behavioral Disorders, Bi-polar Disorder, Eating Disorders, Schizophrenia, Alzheimer's Disease and several others. Many of the treatment protocols utilized at Mensah Medical are based on decades of research conducted by mental health treatment pioneers such as Dr. Carl Pfeiffer, Dr. William Walsh and Mensah Medical co-founders Dr. Albert Mensah and Dr. Judith Bowman. Mensah Medical puts these protocols into medical practice, further validating the effectiveness of nutrient therapy and identifying new and improved applications for all-natural treatments designed to help patients achieve biochemical balance.

Evidence demonstrates that mental and psychological conditions are often misdiagnosed and/or underdiagnosed and that treatment has traditionally focused on addressing symptoms rather than root causes. For example, children are often mislabeled as having Behavioral Disorders or ADD/ADHD when, in most cases, they are simply undernourished or experiencing easily addressed biochemical imbalances. Adolescents and teens struggle needlessly with depression, anxiety and mood dysregulation when simple tests and treatments for excessive krypto-pyrroles could lead to significant reduction, if not elimination, of their symptoms. Several adult patients face mental/psychological disorder diagnoses and are treated with antipsychotics that simply dull the senses but do not eliminate the condition, when simply addressing the biochemical imbalances that are the causal factors for these conditions can lead to significant improvement.

During his presentation as part of the 2021 International Conference on Neuroscience and Psychiatry, Dr. Albert Mensah will provide evidence, drawn from years of research and patient treatment, that orthomolecular medicine provides us with greater insight into the treatment of cognitive dysfunction. He will show that nutrient therapy is effective, thereby demonstrating that mental health disorders can be corrected rather than just managed. He will also discuss the many cross-over physiologic benefits that can be derived from nutrient therapy, including a strengthening of the immune system, improved cardiovascular health, better vision and several others.

### Learning Objectives:

- 1) What biochemical imbalances (i.e. pyrrole disorder, over or under methylation, insufficient zinc, excess copper) correlate with specific mental and psychological disorder symptoms?
- 2) What evidence demonstrates the efficacy of nutrient therapy in addressing and resolving mental and psychological disorders?
- 3) What is the testing and treatment protocol that has been demonstrated as effective through years of practice at Mensah Medical?
- 4) What are some cross-functional physical health benefits of nutrient therapy that go beyond mental health applications (i.e. cardiovascular health, strengthening of the immune system, improved eyesight, etc.)?.



## SPEAKER PROFILE:

Albert Mensah is co-founder of Mensah Medical in Warrenville, IL and hosts five biannual outreach clinics in Arizona, Southern California, Northern California, Maryland and Florida with his associate, Judith Bowman, MD. Mensah presents at conferences internationally, participates in physician training programs and consults with health care professionals. Mensah has extensive clinical experience in biochemical imbalances and began his career in the field at the former Pfeiffer Treatment Center under the direction of William J. Walsh, PhD, president of the non-profit Walsh Research Institute. Mensah currently serves as a faculty member of the Walsh Research Institute Medical Practitioner Education Program.

As a physician in this specialized field since 2005, Mensah has treated over 3,000 patients with advanced targeted nutrient therapy. He serves on the board at Walsh Research Institute and serves as a clinical instructor for WRI's international doctor training programs around the world.

Albert Mensah received his undergraduate degree from Northwestern University (Evanston, Illinois) and his medical degree from Finch University of Health Sciences-Chicago Medical School. Mensah's residency was in Family Medicine at Swedish Covenant Hospital (Chicago). Following residency, he completed additional fellowship training in academic development at JHS Cook County Hospital (Chicago).

From 2005 to 2008, Mensah treated patients at the former Pfeiffer Treatment Center, a not-for-profit organization and outpatient clinic specializing in the treatment of biochemical imbalances including children with autism. Prior to joining Pfeiffer, Dr. Mensah practiced as a staff physician at Melrose Park Clinic in Illinois.



# Latent class analysis of exposure to childhood trauma and health risks among justice-involved youth: An approach towards gender differences

*Richard Dembo*

*University of South Florida, USA*

## ABSTRACT

Research indicates juvenile justice-involved youth experience increased risk of exposure to childhood trauma and health risks. Little is known about the heterogeneity in trauma and health risk experiences among delinquent youth, especially across gender. We use latent class analysis to examine typologies of self-reported exposure to trauma and health risks among a sample of 435 female and 1,198 male juvenile offenders. The study objectives were to identify any subgroups of justice-involved youths with varying patterns of trauma and health risk behaviors across gender, examine the size of these trauma-health risk subgroups and examine socio-demographic differences in the trauma-health risk latent classes. Findings suggest the presence of three groups of trauma and health risk behaviors within the gender groups. For females, the three subgroups demonstrated linear trends in increasing prevalence of trauma and health risks. For males, the three subgroups reflected a generally low-risk group, a group with high rates of marijuana use and risky sexual behaviors and a group with high rates of depression, family problems, sexual assault victimization and bullying. Analyses for covariates revealed racial differences in trauma and health risks. The findings suggest gendered intervention strategies should be considered for justice-involved youth.

## SPEAKER PROFILE:

Richard Dembo is a professor of criminology at the University of South Florida in Tampa. He received his Ph.D. in sociology from New York University. He has conducted extensive research on the relationship between drug use and delinquency; has published three books and over 250 articles, book chapters and reports in the fields of criminology, substance use, mental health and program evaluation; and has guest edited five special issues of journals addressing the problem of drug misuse. He is a member of the editorial boards of Substance Use and Misuse, Violence, Aggression and Terrorism, the Journal of Child and Adolescent Substance Abuse, the Journal of Offender Rehabilitation and Neurobehavioral HIV Medicine. He has served as a consultant to the National Institute of Justice, the Office of Juvenile Justice and Delinquency Prevention, the National Institute on Drug Abuse, the National Institute of Mental Health, the Center for Substance Abuse Treatment, the Office of Substance Abuse Prevention and the National Science Foundation; and is a reviewer of manuscripts for numerous professional journals. He is Past-Chair of the American Sociological Association Section on Alcohol and Drugs. He has extensive experience working with troubled youths in a variety of settings and in applying research technology to social problems. He recently completed a five year involvement in the NIDA funded JJ-TRIALS Cooperative Agreement. He is currently involved in a NIDA-funded (P34 grant) Pilot project testing a Culturally Modified Family Based Therapy (CIFFTA) for Haitian youth entering the Miami-Dade Juvenile Assessment Center and their families. He has been involved in the Casey Foundation, Juvenile Detention Alternatives Initiative in Hillsborough County. He helped develop the Hillsborough County Juvenile Assessment Center in Tampa and supports JAC operations by: (1) completing special research studies and (2) developing, implementing and evaluating the impact of innovative service delivery projects for youth processed at the JAC and their families. He has been a major party in the flow of millions of dollars in federal, state and local funds into the University of South Florida and the Tampa Bay area for various research and service delivery projects addressing the needs of high risk youth, their families and their surrounding communities.



International Webinar on

# Neuroscience and Psychiatry

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**Day 2**

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# **Bilateral amyloidoma of the trigeminal nerve causing a progressive trigeminal neuropathy: An unusual presentation of localised AL amyloidosis involving the peripheral nervous system**

*Alexandra Lyons*

*University of Queensland, Australia*

## **ABSTRACT**

**W**e describe an unusual presentation of localised tumefactive AL amyloidosis ('amyloidoma') of the peripheral nervous system involving the trigeminal nerve at the level of the gasserian ganglion. The patient presented with sensory and motor symptoms affecting the face due to a bilateral trigeminal neuropathy. Amyloidosis can present with single organ involvement including isolated peripheral nervous system involvement. Peripheral nerve amyloidosis is typically associated with a monoclonal gammopathy or the rarer hereditary transthyretin due to mutations in the transthyretin gene. Interestingly, the patient had a history of Bell's palsy and we hypothesise that a chronic infection with herpes simplex virus or other neurotropic virus may have resulted in a localised inflammatory process which was the basis for the formation of the amyloidomas. Bilateral trigeminal nerve amyloidoma is extremely rare and has only been reported twice previously. Neuroimaging revealed lesions of bilateral trigeminal nerves at the level of the gasserian ganglion involving Meckel's cave and extending to the cavernous sinus. Following multiple biopsies, a histopathological diagnosis of a localised amyloidoma was made. Further investigations did not reveal evidence of an underlying monoclonal gammopathy or systemic amyloidosis. Localised AL amyloidosis (amyloidoma) affecting the peripheral nervous system is an unusual but important clinical manifestation of amyloidosis.

## **SPEAKER PROFILE:**

Alexandra Lyons is an anaesthetic trainee with a special interest in neuroanaesthesia. She was a former neurosurgical registrar for 3 years in Brisbane, Australia and has completed a Masters of Medicine in clinical neurophysiology.



# The outcome of eating disorders, pregnancy, childbirth, family support

*Makino Mariko*

*Toho-university, Japan*

## ABSTRACT

The aim of this study was to identify relapse of Eating Disorders (EDs) during pregnancy and after delivery as well as postpartum depression in women who had complete remission of EDs. 67% Experienced ED relapse during pregnancy and 50% relapsed after birth. 50% had postpartum depression. Among the participants who did not have postpartum depression, there were no low-body weight infants. This study revealed that recurrence of EDs and the occurrence of postpartum depression were higher in this population, indicating the need to closely monitor EDs during pregnancy and after birth.

## SPEAKER PROFILE:

Mariko Makino begun to see and treat eating disorder patients from 1986. Since then Mariko has been seeing over 1500 patients with EDs. Mariko went to her patients' wedding over 30 times. After recovering eating disorders, patients and Mariko have been keeping in touch for many years. Mariko has completed her PhD two times. one is at the Toho-university and the other was the University of Melbourne. Her hobby is heli-skiing, every year she visited Canada.



# Cortical potential associated with jaw-biting movement in the patients with oral cancer after the surgery

*Ichiro Nakajima*

*Nihon University, Japan*

## ABSTRACT

Oral cancer is first treated with surgery for the patients. In most cases, it becomes difficult for these patients to perform smooth jaw movements postoperatively, causing masticatory dysfunctions, due to the mandible excision including muscles and peripheral nerves. However, it is still unknown whether the surgery affects the brain function for jaw movement in the patients. In this study, therefore, we investigated a significance of the Movement-Related Cortical Potential (MRCP) for jaw movements in the patients after the cancer surgery, to clarify the motor preparation process in the brain, as compared with healthy subjects. Eight normal subjects and seven patients with oral cancers were enrolled in the study. Experiment 1: The normal subjects were instructed to perform jaw-biting movement and hand movement, respectively. The MRCPs appeared bilaterally over the scalp approximately 1 to 2 s before the onset of muscle discharge in both movements. Experiment 2: The MRCPs appeared preoperatively in the jaw biting movement in all patients. However, the amplitudes of the MRCP decreased significantly after than before the surgery ( $p < 0.05$ ). Our data indicated the dysfunction of the motor preparation process for jaw movements in the patient after the surgery, suggesting impairment of feed-forward system in the maxillofacial area.

## SPEAKER PROFILE:

Ichiro Nakajima is the chief professor at the department of community dentistry, Nihon University School of Dentistry, for 13 years. Mastication and swallowing are two tightly integrated components of food intake behavior. He is the first Japanese researcher to elucidate the mechanism of masticatory movements by recording electroencephalography in humans. As a dentist, he specializes in dental treatment for the patients with cerebral palsy. The purpose of his research is to establish new rehabilitation methods for oral motor dysfunctions in the patients with dysphagia, by these clinical neurophysiological approaches.



# Corticobasal degeneration combined with complex regional pain syndrome type 1

*Kyung Hee Do*

*Veterans Health Service Medical Center, South Korea*

## ABSTRACT

We report a rare case of a patient with corticobasal degeneration (CBD) who was also diagnosed with Complex Regional Pain Syndrome type I (CRPS I), which has similar clinical characteristics. A 76-year-old man who had been diagnosed with CBD several years prior presented with asymmetric severe pain, postural instability, limb rigidity, limb dystonia, tremor, ideomotor apraxia and bradykinesia especially on his left upper extremity on admission at our rehabilitation center. Additional physical examination showed darkened skin color change, edema, reduced skin elasticity, cold skin temperature, wet skin and limited range of motion of the left side compared to the right side. A three phase bone scan was done resulting CRPS I. Therefore, we initiated treatment for CRPS I, including steroid pulse therapies and non-steroidal anti-inflammatory drugs; subsequently, his left extremity pain reduced from a VAS score of 8~9 to 3 and his functional level also improved. To the best of our knowledge, this is the first case report of a CBD patient being also diagnosed with CRPS I. Due to the similar clinical characteristics that two diseases share, we would like to inform the physicians the importance of differentiating the CRPS I from CBD for the quick proper management.

## SPEAKER PROFILE:

Kyung Hee Do has completed his PhD from Yeungnam University, Daegu, Korea. She is the section chief of department of physical medicine and rehabilitation, Veterans Health Service Medical Center, Seoul, Korea.



# Brain activity underlying olfactory–gustatory synchrony perception using ERPs

*Tatsu Kobayakawa*

*National Institute of Advanced Industrial Science and Technology, Japan*

## ABSTRACT

**A** Temporal synchrony between odor and taste plays an important role in flavor perception. When we investigate temporal synchrony between odor and taste, it is necessary to pay attention not only to physical simultaneity of the presentation of olfactory and gustatory stimuli, but also to the perceptual simultaneity between the two stimuli. In this study, we examined short-latency brain activity underlying synchrony perception for olfactory–gustatory combinations. While five female participants performed a Simultaneity Judgment (SJ) task using soy sauce odor and salt solution, single-channel event-related potentials (ERPs) were recorded at the position of Cz. In each trial, the participant was asked whether olfactory and gustatory stimuli were perceived simultaneously or successively. Based on the judgment responses acquired from participants (i.e., simultaneous or successive), ERP data were classified into two datasets. The means of ERPs from each participant were calculated for each type of judgment response, considering the onset of olfactory or gustatory stimuli (OERPs or GERPs, respectively) as the starting point. The latencies of the P1 component of GERPs were very similar between simultaneous and successive judgment responses, whereas the P1 amplitudes differed significantly. These results indicated that neural activity affecting SJ for an olfactory–gustatory combination is generated during a period of about 130 ms from the onset of gustatory stimulus. Thus, olfactory and gustatory information processing related to flavor perception (more specially, synchrony perception between odor and taste) might be initiated at a relatively early stage of the central pathway. Additionally, I will introduce olfactory reaction time under familiar vs. unfamiliar combination of odorants, this result also implied early stage of olfactory neural processing. This study was partly supported by Cabinet Office, Government of Japan, Cross-ministerial Moonshot Agriculture, Forestry and Fisheries Research and Development Program, (funding agency: Bio-oriented Technology Research Advancement Institution).

## SPEAKER PROFILE:

Tatsu Kobayakawa has completed his PhD at the age of 32 years from Tokyo University, Japan. He is chief senior researcher at National Institute of Advanced Industrial Science and Technology (AIST), Japan. He has over 120 publications that have been cited over 1800 times and his publication h-index is 20.



# Chronic lithium & valproate effects on cognitive flexibility: A translational study

*Anyfandi Eleni*

*National and Kapodistrian University of Athens Medical School, Greece*

## ABSTRACT

Research on Bipolar Disorder (BD) effects on cognition has produced conflicting results, attributed to methodological variability, poor clinical sample characterization and the difficulty of separating the cognitive impact of BD from that of relevant pharmacological interventions. This complication is compounded by the neurotrophic / neuroprotective potential of mood stabilizers, lithium in particular, which may moderate BD-linked cognitive dysfunctions. We examined the controversial area of cognitive flexibility in BD, using a translational approach, towards disentangling BD from medication effects. Flexibility was assessed by CANTAB-IED in Study A (euthymic BDs) and its animal analogue in Study B (Wistar rats). Both studies included (1) CONTROLS, (2) LITHIUM (LI), chronic ongoing treatment (A: >2 years, N=32; B: 2 months, N=11; (3) VALPROATE (VPA), chronic ongoing treatment (A: >2 years, N=30; B: 2 months, N=12). Study B also included Groups 4: LI treatment, PAST (2 months, stopped 1 month pre-test, N=13) and (5) ACUTE LI (test days, N=13). In Study A, stage errors (discrimination-D, reversal-R, intra-extra dimensional shift-ID/ED) did not differ between groups (Kruskal-Wallis: H (2, N= 94) 0.95 > p > 0.65). The LI and VPA BD groups of the study were indistinguishable from CONTROLS in cognitive flexibility. In Study B, differences emerged only in Response Latencies (D, R, ID/ED ANOVAS: 0,002>p>0.0003) between CONTROL and ACUTE LI (contrasts D, R: p = 0.002, 0.0001). The study failed to demonstrate any effects of chronic LI (current, past) or VPA (current) on set shifting in rats, besides a latency deficit after acute LI. In conclusion, within the limitations of translational research, our results suggest that the normal cognitive flexibility noted in euthymic BDs is not attributable to a direct beneficial effect of mood stabilizers.

## SPEAKER PROFILE:

Anyfandi Eleni, 1st department of psychiatry, Eginition Hospital, National and Kapodistrian University of Athens Medical School, Athens, Greece. Eleni Anyfandi acquired an MSc in Neuropsychology at age 26 (2011, University of Athens Medical School). She is currently a University Scholar, completing her PhD in neuropsychology at the National and Kapodistrian University of Athens Medical School. She has 7 publications that have been cited 70 times and her publication h-index is 4.



# Individualization of the middle cranial fossa approach in the treatment of vestibular schwannoma

*Maryna Al-Fauri*

*American University of Caribbean School of Medicine, Sint Maarten*

## ABSTRACT

**Introduction:** Introduced by Retzius (1840) classification of the shape of the skull subdivided all individuals into three phenotypical groups with wide (brachycephalic), narrow (dolichocephalic), or normal (mesocephalic) shapes of the skull. The relationship between the value of the cranial index and morphology of the skull base structures is still unclear till now. Our goal is to study the topography of the abovementioned structures in brachycephalic, mesocephalic, and dolichocephalic subjects and provide surgeons with reliable landmarks.

**Materials and Methods:** The skull base structures were studied on 54 embalmed cadavers and 60 MR images of the head and neck by photo modeling, dissection, and 3D analysis techniques. By the value of the cranial index, all specimens were subdivided into dolichocephalic, mesocephalic, and brachycephalic groups for comparison of variables.

**Results:** We found that the shape of the middle cranial fossa correlates positively with the laterolateral diameter of the skull. The brachycephalic skulls possessed the larger length of the superior border of the temporal pyramid, the distance from the apex of the pyramid to the squama of the temporal bone, and the angle between the pyramid and the lateral wall of the middle cranial fossa (SB-angle). On the contrary, the dolichocephalic skulls had a 4.65 mm shorter apex to squama distance and about 20° reduced pyramid to the lateral wall angle. We would like to emphasize that the angle between the internal acoustic canal and the superior border of the temporal pyramid (IAC-angle) showed reversed distribution; it was twice as large in the dolichocephalic specimens compared to the brachycephalic ones. These data show a clear pattern of distribution of the variables between the cranial phenotypes and can help to systemize the wide range of variability of the structures of the skull base. The findings on the shape of the middle cranial fossa, degree of inclination of the pyramid, and topography of the internal acoustic canal in different cranial phenotypes are novel.

## SPEAKER PROFILE:

Maryna Al-Fauri is graduated from Kharkiv State Medical University (Ukraine) with MD in general surgery and Ph.D. in human morphology. She has more than 10-years of international experience in teaching clinical anatomy with applied and radiologic anatomy contents. Her research in osteology and vasculature of the head includes developmental, ethnologic and phenotypical aspects. She has over 30 publications cited over 40 times and her publication h-index is 7.3.



# The biological pathways behind Alzheimer Disease

*Concetta Crisafulli*

*University of Messina, Italy*

## ABSTRACT

Alzheimer Disease (AD) is a common neurodegenerative disorder with an ever increasing impact in modern medicine, whose onset can be dated as early as 50 years of age. Although numerous studies pinpoint that a little number of altered genes (namely PSEN1, PSEN2, APP) are sufficient to cause AD or greatly increase the risk (APOE), they are far from enough to explain all AD causes. Indeed, a lot of data has accumulated through the recent years evidencing the multifactorial nature of this disease. Research in this area has revealed a lot about the biological and environmental underpinnings of this disease, especially, but not only, its correlation with  $\beta$ -Amyloid and Tau related mechanics; however, the precise biological pathways behind the disease are yet to be discovered. Recent studies evidenced how several mechanisms, including neuroinflammation, oxidative stress, autophagy failure and energy production impairments in the brain, have been proposed to contribute to this pathology. The following presentation will focus on the role of molecular pathways imbalances and their potential link with Alzheimer Disease.

## SPEAKER PROFILE:

Crisafulli Concetta is an associate professor working for the University of Messina. Here she actively participate in academic and research activities: Professor of biology and genetics in several degree courses, in PhD courses, in graduate schools and university masters. She has a broad background in neuroscience, with specific training and expertise in neuropsychiatric pathologies and inflammation. Her research includes genetics and pharmacogenetics studies in the field of psychiatric disorders. She served as co-Investigator/co-Author on research-projects and produced over 100 peer-reviewed scientific papers. Her career started in 2005 as Ph.D. Student in experimental medicine at the pharmacology section of the experimental clinical dept. of medicine and pharmacology - faculty of medicine and surgery, University of Messina; where she mainly focused on biomolecular models in drug testing. She earned the Ph.D title in 2008 and continued to attend the same laboratory as follow until 2010. In 2011 she became researcher, aggregate professor in applied biology, BIO / 13 at the department of biomedical, dental and morphological and functional images of University of Messina. In 2015 she attained the specialization in Medical Genetics. In 2019 she became associated professor at the same institute. She is a member of several associations: Member of AIBG (Italian Association of Biology and General and Molecular Genetics), Member of SIGU (Italian Human Genetics Society), Member of ISPG (International Society of Psychiatric Genetics) and served as reviewer and guest editor for several international journals.



# Female perpetrators of rape with particular cruelty

*Anna Wiecek Duranska*

*Maria Grzegorzewska University, Poland*

## ABSTRACT

The primary objective of the study was an attempt to develop and present the characteristics of women committing rape with particular cruelty, taking into account the manner in which the female perpetrators have committed the acts, their motivations, as well as the circumstances of the crime. The objective of the study was also to provide information on who the aggrieved persons are and what the accountability of women before the court looks like (in particular, whether there are any differences in the reactions of the system to the acts committed by men and women).

The research was conducted on the basis of the empirical data from criminal cases in which the conviction was based on Article 197§4 of the Polish Criminal Code and in which women were the perpetrators or co-perpetrators. Due to the particular nature of the offences, the research material included court files of cases which ended in a final and binding judgment.

In the analyzed cases, women took an active, aggressive and oftentimes dominating role in both planning and execution of the act. All acts were committed jointly with men and the women were under the influence of alcohol during the commission of the offence. The presented results of the study portray a "typical" female perpetrator of rape in a different light than previous studies did, however, it should be stressed that the results of the analysis should be further examined and extended by including cases not only of rape with particular cruelty, but other offences as well.

## SPEAKER PROFILE:

Anna Wiecek-Durańska has completed her PhD in the year 2017. She is a researcher at the Institute of Justice, a research facility of the Ministry of Justice in Poland. Since 2018 assistant professor at the Institute of Psychology of the Maria Grzegorzewska University. She is the scientific director of clinical psychology of children and adolescents. She published scientific articles on violence, sexual crime, case law and the implementation of protective measures against perpetrators of sexual and dangerous crimes. She serves as a forensic expert in the field of clinical psychology, works as a therapist, trainer of correctional and educational programs (for aggressive people and perpetrators of violence). She has extensive experience in preparing and implementing research. She participated in many national and foreign research projects, such as The State and Prospects of Guardianship in Poland, ICVS (International Crime Victims Survey), ISRD (International Self-Report Delinquency Study). She is a member of the Polish Psychological Society and the Polish Criminological Society.



# The role of radiotherapy in the treatment of primary central nervous system lymphomas

*Meral Kurt*

*Uludag University, Turkey*

## ABSTRACT

Primary Central Nervous System Lymphomas (PCNSL) affects brain, eyes and the spinal cord without any systemic disease involvement. Combined modality treatments have positive impact on overall survival in PCNSL. A typical pretreatment plan is formed by evaluating the treatment options to be used, disease involvement and individual comorbidity, neurological condition as well as functional status of patients. The PCNSL are known to be very sensitive to irradiation and certain chemotherapy treatments. The mainstay of a typical treatment is induction chemotherapy consisting high dose methotrexate (MTX) administration for most patients. The addition of radiotherapy as a consolidation treatment increases progression-free survival.

With regard to radiation treatment, the use of reduced irradiation dose and different fractionation schemes have been investigated in different studies to obtain better disease control while reducing the treatment-related toxicities. It has been demonstrated that the major drawback using WBRT in conjunction with chemotherapy is the high incidence of cognitive worsening and white matter damage of the brain. It appears that the decreased neurotoxicity rates could be achieved with lower irradiation doses (30-36 Gy) compared to higher doses (?40 Gy) together with similar disease control rates. In some studies, induction chemotherapy followed by more reduced dose WBRT consolidation (23.4 Gy) have been found to be feasible and effective with durable disease control rates as well as favorable neurocognitive outcomes. On the other hand, hyperfractionated WBRT (1.2 Gy twice daily to a total dose of 36 Gy), as a different radiation fractionation schema, may be associated with higher response rates. In case of relapsed or refractory disease, stereotactic body radiotherapy (SBRT) may be a valuable option for patients.

In conclusion, the treatment success is closely associated with careful integration of chemo/radiotherapy considering disease control, survival and treatment-related toxicities of PCNSL patients and the best treatment modality should be individualized.

## SPEAKER PROFILE:

Meral Kurt has completed his MD at the age of 29 years from Uludag University, Turkey. She is the head of radiation oncology department of Uludag University, Turkey. She has over 100 publications that have been cited over 300 times and her publication h-index is 10. She has been serving as an educational board member of Radiation Oncology Association of Turkey.



# Moderate traumatic brain injury: Clinical approach to an inappropriate term

*Sergio Aguilera*

*Andres Bello University, Chile*

## ABSTRACT

Moderated TBI (mTBI) is a very heterogeneous group of patients but its mortality is relatively high. At present, there is not specific clinical guidelines for mTBI. Outcome depends of prognostic factors that should be correctly considered at the initial hospital evaluation: age, GCS, GCSmotor, Marshall CT classification and type of brain injury as brain contusions or tASH. All these factors are strongly relationated with in-hospital patient evolution, mortality, outcome and neuropsychological sequels, that are frecuently underrated and are associated with high health and social costs. In mTBI, we can distinguish 2 groups of patients: those with GCS 11-13 initial and the GCS 9 -10 patients who are the high risk group for adverse clinical evolution, specially if is associated to Marshall CT category III and IV. This subgroup of patients should be considered as Severe TBI from the admission. In the neurocritical care, hypotension an hypoxia must be avoided all the time, occupying mass neurosurgery has to be done early, physiological variables needs intensive care and multimodality neuromonitoring in the high risk subgroup should be considered. All these measures will allow improve outcome and decrease mortality of patients with a not devastating primary brain injury.

## SPEAKER PROFILE:

Sergio Aguilera is a neurosurgeon at the Hospital de Chillán, Chile. For more than 15 years he has developed different academic activities related to neurotrauma, neuromonitoring and neurocritical care, participating in different congresses, consensus conferences, clinical guidelines and scientific articles. In addition, for more than 4 years he has held management positions in the society of neurocritical care in Latin America, LABIC.



# ADHD and impact on language

*Clay Brites*

*Neurosaber Institute, Brazil*

## ABSTRACT

The language problem in ADHD could be expressed in any age, in different intensity levels, that could bring negative effects in all daily activities and learning process, which depends on the right language acquisition during the child's development. The most common impacts of ADHD on language are phonological awareness, auditory processing, prosodic and understanding speech, emergent literacy and verbal working memory. Among the most common comorbidities in ADHD, the abnormalities in language result in greater unsatisfactory evolution and many problems in verbal and nonverbal abilities and even more in academic life, as a result of losses in reading and writing appropriation increasing risk to Learning Disabilities (LD) and truancy. Therefore, the early diagnostic and intervention of ADHD is very important during early childhood years for both avoid language deficits and chronic low academic performance.

## SPEAKER PROFILE:

Clay Brites has completed his PhD at the age of 45 years from Campinas University (UNICAMP), Brazil. He is speaker and professor and collaborator of Neurosaber Institute. He has scientific publications, chapters, books and several articles on line and social networks about neurodevelopmental disorders and its comorbidities.



# Intracranial pressure waveform: History, fundamentals and applications in brain injuries

*Gustavo Frigieri*

*Brain4care, Brazil*

## ABSTRACT

Intracranial pressure (ICP) can be analyzed for its absolute value, usually in mmHg or cmH<sub>2</sub>O, its tendency over time and the waveform of its pulse. This presentation will focus on the waveform of the ICP pulse (ICPwf), already observed since 1881 and for a long time not understood. Studies conducted in recent decades show the correlation between the ICPwf and intracranial compliance (ICC), an important clinical parameter added to the practice in the second half of the last century. ICC allows physicians early analyzing patients' neurological conditions related to disorders resulting from variations in cerebrospinal fluid (CSF), blood and intracranial tissue volumes. We will make an invitation to dive into the history and development of ICPwf analysis, clinical uses already adopted and others still under study not completely understood.

## SPEAKER PROFILE:

Gustavo Frigieri completed his undergraduate degree in pharmaceutical sciences and biochemistry in 2003, worked as a biochemist and pharmacist for 4 years, returning to the academic world in 2007. Frigieri presented his doctoral thesis in Sciences at the University of São Paulo in 2010 and post-doctorate in the department of computational physics in 2012 and was elected as a young member at the Brazilian Academy of Sciences in 2014. The brain4care sensor was the result of advances in the instrument developed in his studies, in 2014 the company Braincare was founded, later renamed Brain4care, holder of the rights of the sensor and strongly supported by scientific and technological innovation.



# Physicians specializing in psychiatry of Mexico: An update 2018

*Diana Guízar*

*National University of Mexico, Mexico*

## ABSTRACT

**Introduction:** In 2016, there were 4,393 psychiatrists in Mexico, with an estimated rate of 3.68 per 100,000 inhabitants. It is essential to keep this information updated in order to achieve the overall objectives of mental health care.

**Objective:** Estimate the total number of psychiatrists and paidopsychiatrists in Mexico in 2018; identify their geographical distribution and compare the results with those obtained in 2011 and 2016.

**Method:** Comparative, longitudinal study. Various sources were consulted to update the number of psychiatrists and paidopsychiatrists in 2018 and to determine their sociodemographic characteristics. These characteristics were compared with those found in 2011 and 2016.

**Results:** A total of 4,999 specialists in psychiatry practiced their specialty in Mexico in 2018, 365 of whom are child and adolescent psychiatrists. A rate of 3.71 psychiatrists per 100,000 inhabitants was obtained for a population of 124,737,789. Regarding pedopsychiatric specialists, if we consider a population of 37,714,991 inhabitants under 16, the corresponding rate is .96 child and adolescent psychiatrists per 100,000 minors. These specialists are unevenly distributed throughout the country. Approximately 60% of all psychiatrists and child and adolescent psychiatrists practice in the three largest cities in Mexico.

**Discussion:** Although the national rate of psychiatrists was increased in comparison with 2016, it is still lower than that recommended by the World Health Organization (WHO). The geographical distribution of psychiatrists is uneven due to centralization and economic factors as happens in many countries in the world.

## SPEAKER PROFILE:

Diana Guízar, graduated from Medical School at the National Autonomous University of Mexico (UNAM) in Mexico City with "Gabino Barreda" Medal, as well as recognition of the Ministry of Health and Pfizer Scientific Institute to the best 60 students of medicine in the country. Specialist in Psychiatry and subspecialist in Child and Adolescent Psychiatry from UNAM and "Ramón de la Fuente Muñiz" National Institute of Psychiatry. Master's and Doctorate with honorable mention in Medical Sciences, Faculty of Medicine of the UNAM. Currently working as career professor of the department of physiology and member of the National System of Researchers of CONACYT. Also, academic coordinator of online diploma "Mental health in children and adolescents in the family context" at the National Institute of Psychiatry.



# The development of PET neuroimaging probes targeting epigenetics

*Changning Wang*

*Harvard Medical School, USA*

## ABSTRACT

Epigenetic dysfunction is implicated in many neurological and psychiatric diseases, including Alzheimer's disease (AD), Parkinson's Disease (PD), Huntington's disease (HD) and substance use disorders. Consequently, histone deacetylases (HDACs) and bromodomains are being aggressively pursued as therapeutic targets. However, a fundamental knowledge gap exists regarding the expression and distribution of epigenetic enzymes in living subjects for comparison to disease states.

The traditional in vitro techniques can provide valuable information on the biochemistry of disease, but they have limitations on: 1) the inability of provide analyses of entire intact organisms over time; 2) the required removal of cells, organs, or tissue samples from their natural environment; 3) the samples can often only be analyzed by one or two in vitro techniques; and 4) the necessary euthanasia of animals, making impossible the longitudinal study of the same animal. One of the main motivations of molecular imaging is to translate in vitro bioassay strategies to an in vivo setting in an attempt to overcome these existing limitations. Non-invasive molecular imaging methods (such PET) are uniquely suited to visualize targets in inaccessible tissues – and provide a distinct advantage to intervene in patient health.

Our project aims to develop the first generation of PET imaging probes for epigenetic research. In the past few years, we have identified and validated the first epigenetic radiotracer, [11C]Martinostat, for non-invasive HDAC imaging in rodents, non-human primates and humans via PET and it was recently approved by the FDA for first-in-man studies (IND # 123154). Our lab has now successfully imaged healthy adults (18-65 years old) using [11C]Martinostat. The imaging data are quite promising and are already providing insights into regional HDAC expression. These data represent a major step forward in understanding epigenetic mechanisms in vivo. We are also working on different epigenetic targets, such as sirtuin 1 and bromodomains.

In this abstract, we will report our progress on new PET probe development for epigenetics and measuring epigenetic enzyme density and distribution in the animal brain using PET, which will deliver answers to fundamental questions about chromatin modifying enzymes in the brain in a way that has not been possible until now. There are several projects are undergoing in animal disease models and patients, these results will be a great benefit for epigenetic and imaging research communities.

Innovation in our project is in its focus on novel epigenetic imaging platform with strong translational potential. The confirmation of the dysregulation of epigenetic enzyme expression in primary diseased tissue represents a vital stage in the drug developmental process and disease diagnosis.

## SPEAKER PROFILE:

Changning Wang, PhD, has a unique and broad background in molecular imaging, medicinal chemistry, pharmaceutical sciences and neuroscience. After finishing his doctoral studies, he joined Martinos Center for Biomedical Imaging as a research fellow and later as a trainee in the Harvard/MGH Nuclear Medicine Training Program, to expand his research skills in clinical imaging research. He is now an assistant professor at Harvard Medical School. In the past few years, he has developed [11C]Martinostat as a robustly brain penetrant imaging agent with selectivity for class I HDACs. [11C]Martinostat is the first and only-to-date PET imaging probe for epigenetic research. He designed this probe in only a half year, an extremely short time. The exploratory IND for [11C]Martinostat was approved by the FDA for first-in-human trials and is the first tool of its kind available to characterize HDAC expression in the living human brain. Dr. Wang is leading the project of [11C]Martinostat clinical imaging in several patient groups. He is also working on developing new PET imaging probes targeting other epigenetic enzymes and using these tools for new drug discovery.



# Why use pre-differentiated cells to address complex multifactorial neurodegenerative diseases?

*Alex Kopyov*

*Celavie Biosciences LLC, USA*

## ABSTRACT

Past four decades have seen a concerted push to develop regenerative treatments for incurable neurodegenerative diseases such as Parkinson's disease (PD). PD's pathophysiology is primarily characterized by dopamine deficiency caused by the progressive depletion of neurons in substantia nigra. So, it is not very surprising that most attempts at regenerative treatment of PD focus on using pre-differentiated, dopaminergic neurons. However, PD's pathogenesis spans far beyond strictly dopamine deficiency and is still not completely known. Thus, attempts at implanting pre-differentiated dopaminergic neurons that are locked into a single, inflexible function, predictably ran into the same problems as dopamine replacement therapy: 1. These cells are not curative; 2. They cannot address all PD deficits and 3. They tend to cause side effects. In order to address the multifactorial nature of this disease, we suggest the use of non-tumorigenic undifferentiated stem cells. Unlike adult cells, undifferentiated cells, due to their inherent plasticity, have the potential to respond to various cues from the Parkinsonian brain, target multiple systems and pathways and eventually restore both structure and function.

## SPEAKER PROFILE:

Alex Kopyov is the vice president of research and development for a stem cell pioneer Celavie Biosciences LLC. He received a Bachelor of science degree in biology from University of California Irvine and studied medicine at University of Minnesota Medical School. Significant work prior to Celavie included: Development of automated analysis of neuronal spikes in Deep Brain Stimulation in patients with Parkinson's Disease (Neurosciences Institute, Good Samaritan Hospital, Los Angeles). Investigation and modulation of T-Cell mediated cytotoxicity on HIV infected cells (Infectious Diseases Laboratory, UCI).



# In-tangible matters: Mys-understanding soul in the brain- Ethical implications for post-human evidentialism and the therapeutics of technoneuroism

*Todd DuBose*

*The Chicago School of Professional Psychology, USA*

## ABSTRACT

This presentation will begin by exposing the implicit, though overlooked nuances in neuro-discourse of the soul in the brain: immaterial agency and intentionality in objectified thingification, irreducibility in materialistic reductionism, intangible meaning in neural activity and undecidable unconditionality in apparent “nothing-but-erism”. This line of inquiry advances plasticity discussions (meaning and matter are inseparable) and invites a different kind of evidentialism that resurfaces long-standing feuds between the natural and human sciences regarding (1) the false dilemma of the mind-brain problem, (2) the false analogy of physical medicine applied to “difficulties in living” and (3) the dismissal of animism. These discussions are all the more urgent in our posthuman age that views the human being as a data-byte that is programmable, algorithmically engineered and commodified as a product. I rely heavily on Catherine Malabou’s work on plasticity as well as on the work on Martin Heidegger, Maurice Merleau-Ponty and Michel Henry for our dialogue about the phenomenality of bodyhood that is neither soma nor psyche in order to think more deeply about contemporary and future ethical care in neurology and psychiatry in this age of the machine. If it is the case that, as Henry noted, “Life is invisible; science can’t study it,” will our technology advance care, or will our mys-understand of the place and significance of what cannot be measured in neurology and psychiatry about what is human lead to a mis-care-age for those who suffer, thus leaving us one day asking, “What have we done?” as a result of our genuflection to techno-neuroism?

## SPEAKER PROFILE:

Todd DuBose is a professor at The Chicago School of Professional Psychology. He is a licensed psychologist with over thirty years of clinical experience, nine of those years as a former chaplain at Bellevue Hospital in New York City. He has taught, supervised and consulted in local, national and international venues for over seventeen years. He holds advanced degrees in the integration of continental and comparative philosophy of religion and human science clinical psychology (B.A., Georgia State University; M.Div., Union Theological Seminary, NYC, Ph.D., Duquesne University). He is the winner of numerous awards for his scholarship and teaching and is known globally in several countries for his presentations on existential-hermeneutical-phenomenological approaches to therapeutic care. His interests also include ideological critiques of standards of care, thus expanding alternative and plural options of evidences, empiricisms, outcomes, sciences, methods, personhood, suffering, truths, realities, care and the good life. He is committed to the public-scholar, engaged practitioner model of scholarship and praxis and is very active in the International Society for Ethical Psychology and Psychiatry. He is President-Elect of the American Psychological Association’s Division 32: Society for Humanistic Psychology.



# On the use of a modified kubler-ross model of grief to treat bereavement in schizophrenia

*Bolaji Yoade*

*Interfaith Medical Center, USA*

## ABSTRACT

Models and therapeutic approaches to bereavement have focused on patients without mental illness, with limited studies done on patients with psychiatric disorders, specifically schizophrenia. A question arises as to how the models of bereavement may be modified in schizophrenia and what are the possible adjustments in bereavement counseling for those with schizophrenia. We describe the case of a 50-year-old African American male with a history of schizophrenia. He was admitted to the psychiatric inpatient service after he was found living at home with the decomposing body of his dead mother for several days. Positive and Negative Syndrome Scale (PANSS) score was 32 on the positive scale and 39 on the negative scale at the beginning of his hospital course. A modified model of bereavement was formulated in light of his acute psychotic symptoms, based on Kubler-Ross and Cognitive theory, which consisted of 20 sessions implemented over four weeks. Initial sessions were supportive and focused on establishing rapport, psychoeducation about the concept of dying and losing support systems. Later sessions focused on the exploration of cognitive beliefs and targeting cognitive distortions. By the end of the fourth week, the patient did not seem to exhibit delusions and more readily accepted the finality of his mother's death. PANSS score was 8 on the positive scale and 19 on the negative scale by the end of his hospital course. We utilized modified Kubler-Ross and bereavement counseling models in this patient with a resolution of the psychotic denial phase of his loss. Further studies need to be done on the possible utility of our modified model and modified therapeutic approach for bereavement in patients with schizophrenia.

## SPEAKER PROFILE:

Bolaji Yoade earned her bachelor of medicine, bachelor of surgery (MBBS) degree from Ladoke Akintola University College of Health Sciences in Nigeria. She completed her internship in Nigeria after which she migrated to the United States of America, where she became ECFMG certified. She is affiliated to Brooklyn Brain and Mind Institute, Interfaith Medical Center, Brooklyn, New York. Bolaji has one publication on "On the use of a modified Kubler-Ross model of grief to treat bereavement in schizophrenia". Currently, she is working on 2 research topics: "Effect of COVID-19 on the mental health of health care workers" and "Effect of COVID-19 on eating disorders in young adults 18-25 years". Her goal is to complete a residency training in psychiatry and a fellowship training in child and adolescent psychiatry.



# Vitamin B12 supplementation: Preventing onset and improving prognosis of depression

*Prerna Sangle*

*California Institute of Behavioral Neurosciences & Psychology, USA*

## ABSTRACT

Depression is a common mental health condition occurring across all ages, genders and populations and is almost always multifaceted. It can manifest as a form of metabolic disorder, endocrine disorder, cardiovascular diseases, inflammatory disorders, deficiencies, or neurodegenerative disorders. Although there have been various treatment options available for the treatment of depression, it is still a sizable global health concern requiring more attention. This review article was produced by researching data and studies to prove a relationship between Vitamin B12 and depression. Numerous studies were reviewed and based on these studies, it was concluded that supplementation of Vitamin B12 early enough can delay the onset of depression and improve the effect of anti-depressants when used in conjunction with Vitamin B12. Although other vitamins like Vitamin B6 and folate are known to have an impact on depression, we have primarily focused on Vitamin B12 in an attempt to offer the providers a foundation to address this concern with their patients prone to depression or have had a major depressive episode in their life.

## SPEAKER PROFILE:

Prerna Sangle has completed her MBBS from Dr. D. Y. Patil Medical College, India. She is a novice researcher and currently leading medical practices in California, USA. She also holds master's degrees in healthcare management and business administration.



# Social support, identity, & meaning - The psychosocial aftermath of traumatic brain injury

*Gary Senecal*

*Assumption University, USA*

## ABSTRACT

After a traumatic blow to the head, it is common to experience difficulties related to focusing, disorientation, dizziness, nausea, sensitivity to light and sound and often loss of consciousness. These symptoms often persist for several weeks following the concussion before diminishing completely. Post-Concussion Syndrome (PCS) refers to the persistence of concussion symptoms beyond the normal two-week window. For some, symptoms can continue for several months to several years. While the present analysis aims at PCS in the latter (psychological) sense, it is worth mentioning that Acquired Brain Injury (ABI) specialists have found it appropriate and even necessary to adopt an existential-phenomenological perspective as well. Like depression, PCS is diagnosed from behavioral and physiological signs and subjective symptoms. However, PCS is eliminated from DSM-5 and can be understood as either a variation of Acute Stress Disorder or TBI. DSM reliance on neuroscience, brain imaging and genetics is in service to explaining what constitutes a psychological disorder and, by extension, what causes each, unfortunately and in many ways, stripped of all qualities that cannot also be explained. For this study, arranged interviews with three athletes who had experienced major head injuries and recovered from PCS. Participants 1 and 3 were males whose concussions had forced an early retirement from careers in football. Participant 2 was a female mountain climber whose injury also ended her career. Transcripts were analyzed using the descriptive phenomenological method. Ultimately, the participants who volunteered for this study had different experiences in recovery from TBI. Each participant succeeded in rehabilitating from injury but took very different paths in doing so. Common across each was a modification of personality and routine, as well as the deep benefits provided via social support and identity reconstruction. However, each participant navigated these outcomes to varying degrees of success.

## SPEAKER PROFILE:

Gary Senecal received his PhD in psychology from the University of West Georgia in 2015. He currently serves as an assistant professor of human services & rehabilitation studies at Assumption College in Worcester, MA. During this time, he has taught courses ranging from psychiatric rehabilitation, history and theory of psychology, performance, motivation, & rehabilitation, sports psychology, human disability across the lifespan, client assessment and military psychology - the social reintegration of veterans. His research focuses on the phenomenological psychology of violence, the social psychology of violence and the career transitions of individuals who have retired from or been deselected from careers that exposed them to regular violent endeavors (in particular, contact sport athletes and military veterans). He is a current member of the Army Reserves and resides in Worcester, MA with his family.



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