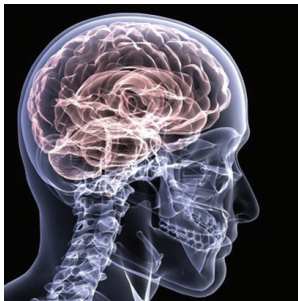# Keynote Forum
April 08, 2019

Health & Neuroscience 2019

International Conference on

Health Care and Neuroscience

April 08-09, 2019 | Zurich, Switzerland

Geert van den Brink

HAN University of Applied Sciences, The Netherlands

The physician assistant in The Netherlands

The Physician Assistant is a healthcare professional licensed to practice medicine across all medical specialties. Introduced into the Dutch Healthcare System in 2003, he or she is trained to medically diagnose a broad range of conditions, order diagnostic tests, execute medical procedures and prescribe medicine.

The reasons why PAs were considered for The Netherlands are:

- A growing demand for healthcare due in large part to a growing number of patients and the rise in
- Co-morbidity
- An aging population
- Decreasing number of postgraduate physicians in training Increasing patient expectations
- Emerging technologies and treatment opportunities

As the Dutch PA movement grew the government introduced various policies to enhance their development. Today the PA has full practice authority, is regulated by law, and answers to the same medical discipline-board as physicians. Insurance companies reimburse PA roles and activities to the hospital employer. In 2018 there were 1200 graduate PAs working clinically. Applicant requirements include a bachelor's degree in healthcare, at least two years of experience with direct patient care, and an employment contract as a student with a healthcare institution. Enrollment in 2019 is 250 students in five universities and growth is anticipated. Various studies have consistently shown that the quality of PAs compares favorably with physicians. Patient satisfaction is high; the quality of medical treatment is the same, including prescribing, and the care meets the requirements of safety and cost effectiveness. Clinically active PAs are satisfied with their role and place in society. As the supply of PAs grows the Dutch healthcare system will need to assess how their utilization can be further enhanced.

Speaker Biography

Geert van den Brink is director of the PA education program at the HAN University of applied sciences. He has been involved with the development of the PA since 2002. He completed his MSc in Health sciences at the University Maastricht in 2001. Since 2006 he has chaired the national board of Nurse Practitioner and Physician Assistants in the Netherlands. He is completing his doctoral degree evaluating the employment economics of Nurse Practitioners and the Physician Assistants in the Netherlands.

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Marilyn Parkin

International College of Medical Intuition, Canada

Bio-physical tendencies with applied methods of mind/body/soul techniques sound frequencies and including the art of intuition

The study was conducted to determine the effects of sound vibration on individuals with depression. The study also examined changes to the blood cell after the intervention of vibratory frequencies ranging from 120 Hz to 10 Hz throughout the magnetic field of the body. Variables introduced were time frame of one hour of control group listening to music and experimental group positioned on a sound vibrational treatment table to absorb the music vibrations. The random study was conducted on 60 subjects with inclusion of 25 to 45 years of age and >6 months maintenance dose of antidepressant drug, Paxil. Measurement was accomplished through evaluation of live blood analysis and Hamilton rating scale for depression. A blood draw process of live blood analysis was obtained and examined for specific quality and level of visible clumping. Post blood analysis determined less clumping and healthier activity of the cell after intervention in the experimental group. The live blood analysis of the control group remained unchanged. Hamilton rating scale for depression indicated decreased levels of depression in experimental group. Hypothesis supports changes towards healthier cellular activity and appearance of less blood cell clumping and decreased level of depression with increased levels of frequency through sound vibrational treatment table. Application of this model has been applied within informal studies and observations on adults and children for various conditions with similar results.

Speaker Biography

Marilyn Parkin has completed her PhD in Energy Medicine through an innovative program designed by Norm Shealy and Caroline Myss. She has completed a Formal Research Study (Clinical Depression) on Sound Frequencies Effect on the Physiology of the Body as well as years of data collection on efficacy of applied intuition as a therapeutic tool. She holds a Degree in Sociology and Psychology. Her focus is reaching medical professionals such as nurses to further incorporate intuition for healing in the workplace. Her courses are practical and based on intuitive as well as scientific knowledge.

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Notes:

Jintang Wang

Yuetao Song[1], Zheng Chen[1] and **Sean X Leng[2]**

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Connection between Gut-derived Phytochemical molecules and Brain Inflammatory Cascade

Anti-inflammatory effect of several phytochemicals such as curcumin, resveratrol, polyunsaturated fatty acids (PUFAs) and ginsenosides has been extensively studied. However, their underlying mechanism against neuroinflammatory pathogenesis of neurodegenerative diseases is still unclear, especially in connection between their dietary supplementation and reversal of brain neuronal damage or dysfunction. In this article, we analyze anti-oxidative and anti-inflammatory effects of phytochemicals, and then discuss their communication approaches with brain microenvironment and the potential binding receptors on microglia, astrocytes and neurons. These data show that phytochemicals may modulate and suppress neuroinflammation by several approaches: 1) amelioration of systemic inflammation and inflammatory infiltration via blood brain barrier (BBB); 2) direct permeation into brain parenchyma and binding to aryl hydrocarbon receptor (AHR), leading to neuroprotective effect; 3) enhanced integrity of disrupted BBB; and 4) improved gastrointestinal function, signaling to the brain by vagal/inflammatory reflex, to promote glial and neuronal activities. Therefore, these phytochemicals have a potential neuroprotective implication, and development of strategies for preventing these diseases represents a considerable public health concern and socioeconomic burden.

Speaker Biography

Jintang Wang is Associate Professor of Neuroimmunology at Beijing Geriatric Hospital and a recipient of fellowship award from Johns Hopkins University School of Medicine, sponsored by Milstein Medical Asian American Partnership (MMAAP) Foundation. His research is focused on neuroinflammatory mechanism underlying pathogenesis of neurodegenerative diseases and anti-inflammatory mechanism of phytochemicals. Research projects use α-synuclein and cytokines or phytochemicals to stimulate glial cells and address their interaction mechanism by determining activation of canonical inflammatory pathway. He has published more than 20 papers in reputed journals and is a review expert of Neural Regeneration Research journal.

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Notes:

Gerald C Hsu

eclaireMD Foundation, USA

From a public health's viewpoint to address type 2 diabetes patient's glucose control issue (GH-Method: Math-Physical Medicine)

Introduction: This paper discusses type 2 diabetes (T2D) patient's glucose control guidelines from a public health's viewpoint. It is based on 1.5 million data of chronic diseases and lifestyle details. Furthermore, mathematics, physics, engineering modeling, and computer science were used to develop the needed models.

Method: T2D is a serious worldwide epidemic increasing at an alarming rate. Its complications, especially cardiovascular disease (CVD) and stroke, take many human lives each year. The author was diagnosed with severe T2D 25 years ago and suffered five cardiac episodes. He has spent more than 20,000 hours during the past 8.5 years to conduct a series of research work on glucose control by using his own developed math-physical medicine approach. He believes in "prediction" and has developed five models, including metabolism index, weight, fasting plasma glucose (FPG), postprandial plasma glucose (PPG) and hemoglobin A1C. All prediction models have reached to 95% to 99% accuracy. His focus is on preventive medicine, especially on diabetes control via lifestyle management.

 T2D patients have faced four major challenges:

(1) Awareness of disease and overcome "self-denial" (attitude issue).

(2) Availability of correct disease information with physical evidence or numerical proof (knowledge issue).

(3) Determination and persistence on lifestyle change (behavior psychology issues).

(4) A non-invasive, effective, and ease of use tool to correctly predict glucose values (technology issue).

Results: Let us put "psychological factors" aside for the time being and just focus on practical methods first. Any public health and healthcare professional can apply the following techniques and tools to assist T2D patients to put their glucose values under control. Most of T2D patients can observe their improvement on their glucose control within 90 to 180 days. Based on meal quantity (including snacks and/or fruits) and bowel movement, body weight can be estimated by an APP tool, and therefore, FPG can also be predicted consequently based on weight (FPG's major factor). The author developed this APP using optical physics, wave theory, signal processing, energy theory, big data analytics, and artificial intelligence (AI). It contains the above mentioned five prediction models, including the most sophisticated metabolism index model for the overall health condition.

This App provides around 95% to 99% prediction accuracy. A patient takes the meal photo before first-bite of food and store it inside of this APP to get a predicted PPG value instantly. If the predicted PPG is too high, he/she can change, delete or vary the quantity of certain meal portions in order to obtain a reduced PPG value from the same meal. Using "machine learning" technology, the system can auto-learn and auto-correct carbs/sugar contents of various food in order to customize for each different patient. In summary, this APP has proven to reach to 99.57% PPG prediction accuracy based on a big food bank with 4,474 meals and 8 million food nutrition data. Quantity of post-meal exercise is also included in this PPG prediction. T2D patients need to walk 1,000 to 4,000 steps within two hours after first-bite of meal, depending on their diabetes severity. Once patients' weight, FPG, and PPG is under control, their A1C and overall metabolic conditions will also be improved significantly.

Conclusion: Public health personnel can easily use these proven techniques and available AI technology tool to educate and guide T2D patients to improve their glucose control.

Speaker Biography

Gerald C Hsu received an honorable PhD in mathematics and majored in engineering at MIT. He attended different universities over 17 years and studied seven academic disciplines. He has spent 20,000 hours in T2D research. First, he studied six metabolic diseases and food nutrition during 2010 to 2013, then conducted his own diabetes research during 2014 to 2018. His approach is "quantitative medicine" based on mathematics, physics, optical and electronics physics, engineering modeling, signal processing, computer science, big data analytics, statistics, machine learning, and artificial intelligence. His main focus is on preventive medicine using prediction tools. He believes that the better the prediction, the more control you have.

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Solange Ghernaouti

University of Lausanne, Switzerland

Cybersecurity for improved connected health

The main security issues to master cyberrisk generated by the digitalisation of health systems and artificial intelligence innovations will be addressed in order to present some key factors of success for optimising comfort, liability and safety for e-heath actors.

Speaker Biography

Solange Ghernaouti, is director of the Swiss Cybersecurity Advisory and Research Group, professor of the University of Lausanne, Associate Fellow, Geneva Center for Security Policy. She is an internationally recognized expert on digital risk management, cybersecurity, cyberdefence and cybercrime related issues. Solange helds a Phd in Computer Science and Telecommunication (Paris – Sorbonne University). She is a former auditor of the French Institute of Advanced Studies in National Defence. She has authored more than 300 publications and more than thirty books including "Cyberpower: Crime, Conflict and Security in Cyberspace" (translated in China). She is Chevalier de la Légion d'Honneur, member of the Swiss commission for UNESCO, Member of the Swiss Academy of Engineering Sciences and has been recognised by the Swiss press as one of the outstanding women in professional and academic circles. She is president of the Foundation SGH (Social Good for Humanity) – Institut de recherche Cybermonde, board member of The Global initiative against transnational crime (Maison de la Paix, Genève).

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Cheryl Wang

Fuzhou University, China

Obesity, X-linked and Y-linked homosexuality, LGBT healthcare

One major pathogenesis of obesity is the unbalanced hormones, too much stress hormone steroid and/or not enough "anti-obese" happy hormones, endorphin, serotonin, dopamine and oxytocin, too much estrogen and/or too less testosterone. Any sexual orientation is normal. Sexual orientation is X-linked and Y-linked traits, inherited by next generations. It is like this, female homosexual XAXA, female bisexual XAXa, female straight XaXa, male bisexual XAYA, male homosexual (manly type) XAYa, male homosexual (girlish type) XaYA, male straight XaYa. The presentation and degree of homosexuality varies in many ways, and at different stages of lifespan, as these hormones and our genetic makeup change. So is fat deposition. More estrogen and/or less testosterone are associated with fat ass. Fat ass may be an easy way to identify stronger homosexuality. If everybody loves his/her love, it may be better balanced. Yet, the reality is the reality. LGBT healthcare remains far behind. As an unresolved frustration, closeted homosexuality causes a series of health problems, obesity, tobacco/alcohol/substance abuse, and mental/psychiatric disorders. Incautious sexual practice causes sexual transmitted diseases (STDs) like AIDS. Social problems like inequality opportunities among minorities happen often. It brought huge challenge for management. Better acceptance and recognition from learning in a variety way, information merged into clinical visits through smartphone apps and electronic medical record system (ERMS), barrier protection in sexual practice, positive attitude in daily life, team network of physicians, psychiatrists, psychologists, pharmacists, activists, and communities, with loving hearts. Start local, go global, don't ever shut the door.

Speaker Biography

Cheryl Wang earned her MD at Binzhou Medical College, MSc., Endocrinology and metabolism, internal medicine in Shanghai Second Medical University (now Shanghai Jiaotong University), PhD in Science, Endocrinology and metabolism, internal medicine at PLA medical college. She did internal medicine residency and trained as an Endocrinologist in Donying People's Hospital, China, did surgery residency at Mount Sinai and Rutgers in the United States. She was awarded numerous times for variety of accomplishment, three KL2s from NIH, the first place award at UTHSCSA research day, Federation Medical Golden Prize scholarship, scholarship for many times, excellent student almost every academic year, excellent student officer awards, excellent female student nominee, excellent graduation award, and many awards for mathematics, speech, and variety of contests.

Above all, she had accomplished her masterpiece, her hard-won wisdom, "happy booster-how positive attitude promotes health, reduces stress, enhances performance, accelerates success and boosts happiness", the best of America and Chinese best, the most positive energy ever, and a Nobel Prize "Winner-to-be".

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Nichelle A Mullins

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Addressing social determinants of health utilizing community health workers

Community Health Centers serve the most underserved populations worldwide. Many of the patients have complex co-morbid conditions such as diabetes, hypertension, obesity, depression, asthma, substance abuse, and communicable and infectious diseases. These health centers are located within rural and inner-city communities with no direct access to primary care and enabling services. The social determinants of health greatly impact underserved individuals including poverty, education, housing, transportation, environmental issues, and employment. The American Public Health Association defines Community Health Workers (CHW's) as a trusted member of the community who serves as a link between health/social services and the community. They facilitate access to services and improve the quality and cultural competence of service delivery. CHW's are pivotal to assisting patients address social determinants of health that present as a barrier to accessing health care. Generally speaking, social determinants of health relate to conditions in the environments in which people live that impact health, quality-of-life outcomes and risks such as, access to health care services, transportation, social support, language/literacy, culture, residential segregation, public safety, access to educational, economic and employment opportunities, and social norms and attitudes. CHW's are currently being incorporated

into clinical care teams across the United States with successful partnerships and outcomes at addressing barriers to care. The Penn Center for Community Health Workers at the University of Pennsylvania has provided services to more than 6,000 individuals in Philadelphia using CHW's hired from the local community to support high-risk individuals. Program outcomes include a 30% reduction in hospital admissions and improved patients' primary care access (post discharge). The Henry Ford Health System has also utilized CHW's to link pregnant women to community resources through their WIN Network (Women Inspired Network). This program, established in response to the high infant mortality rate among African-American women, showed zero infant deaths among the 200 women enrolled in 2016 compared to then current statistics of 16 infant deaths in 1,000 for greater Detroit, Michigan. Research demonstrates that CHW's improve healthcare outcomes, control costs and enhance the coordination of care for all patients, in particular low income and under resourced patients. This presentation will focus on the impact CHW's have at Charter Oak Health Center in the United States as well as in other community health settings to address social determinants of health thereby improving care coordination resulting in favorable patient satisfaction, better health outcomes and cost savings.

This presentation will Define the role of CHW's and define social determinants of health, giving a context of how CHWs can be effectively utilized to improve care coordination and patient outcomes; Provide examples of care plan tools that CHW's utilize to communicate with other members of their care teams; Provide information useful to advocate for the utilization of CHW's to address social determinants of health in their individual health care settings; Provide information to help influence policy or legislation surrounding CHW's in their state or country.

Speaker Biography

Nichelle A Mullins has served as the President and Chief Executive Officer of Charter Oak Health Center, Inc. (COHC) since 2015. COHC is a federally qualified health center that was founded in 1978 and provides quality comprehensive health care to the underserved population regardless of their ability to pay. She is responsible for managing a $26 million budget and overseeing all operations for the facility which serves over 19,000 patients annually in 10 licensed sites within the city of Hartford. She was initially hired as the Chief of Compliance and Legal Affairs for COHC. She has over 17 years of legal and teaching experience. She has a Bachelor of Arts in Political Science/African and African American Studies from the University of Michigan, a Master of Health Care Administration from Walden University, and a Juris Doctor, cum laude, from Syracuse University College of Law. She is an ordained minister and currently serves as an appointed member of the State of Connecticut Citizens Ethics Advisory Board and the Governor's Healthcare Cabinet Committee.

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allied academies

Schalow G

Tartu University, Estonia

From human Neurophysiology to Neural repair in children, Parkinson, Hypertension, Aging, Coma and Cancer via Coordination Dynamics Therapy

Brain and spinal cord injuries can partly be repaired by a movement-based learning method called Coordination Dynamics Therapy (CDT). Following injury, malformation or degeneration not only motor and vegetative functions become impaired, but also the coordinated firing of neurons. The neural repair by learning includes the movements creeping, crawling, walking, running and jumping to induce plasticity for repair. The phase and frequency coordination of neuron firing can efficiently be improved when exercising on a special CDT device on which the precise movements are imposed by the device. By learning transfer vegetative functions like urinary bladder continence, speech and higher mental function can be repaired. - The progress in repair of the human brain became possible because of the newly developed single-nerve fiber action potential recording method. When measuring simultaneously the impulse patterns running into and out of the CNS in cauda equina nerve roots due to natural stimulation, the organization of the human CNS can be measured and analyzed at the single-neuron level. Combining morphometry and electrophysiology, a classification scheme of human peripheral nerve fibers could be developed and neurons identified. It is thus possible to measure at the single-neuron level the organization of the human CNS, a prerequisite for copying the human brain artificially.

Speaker Biography

Schalow G studied electronics (Dipl Ing, 1963) and worked 2 years as a technical engineer at Bosch Electronics. Afterwards he studied theoretical physics at the Free University of Berlin (1970) and worked at the Hahn-Meitner-Institute for Nuclear Physics and promoted in 1973 (PhD). From 1975 to 1977, he was post doc with Katz, Huxley and R Miledi at the Institute of Biophysics, University College London. At the Saarland University from 1977 to 1983, he was assistant at the physiological institute and studied medicine (MD). From 1985 to 1992, he was research assistant at the Ernst-Moritz-Arndt-University of Greifswald (neurosurgery, pathology, neuro-traumatology). From 1992 to 1998, he was leading doctor for clinical research at the Swiss Paraplegic Center Nottwil. From 1998 to 2003, he was working in the field of neuro-traumatology at Tampere and Turku University, Finland. From 2003, he was guest professor at Tartu University (Estonia) and afterwards private researcher because human neurophysiology and clinical research in not organized. He has 100 publications in the fields of human neurophysiology and clinical research and can partly repair the human brain.

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John Ebnezar

Consultant Orthopedic & Spine Surgeon, India

Orthopedic health care dilemmas in the management of the modern musculoskeletal problems – Is yoga based wholistic management the answer?

Modern Musculoskeletal problems (MMSP's), that includes Life Style Orthopedic Problems (< 50 years age group) and Geriatric Orthopedic Problems (> 50 year age group), is steadily on the rise globally and encompasses a wide spectrum of orthopedic conditions like arthritis, neck pain, low back pain, RSI, fibromyalgia, rheumatic diseases, osteoporosis etc. MMS problems are not only known to cause varying degrees of physical pain but causes mental and emotional disturbances leading to stress, anxiety and depression. This could adversely affect the quality of life and can be a great source of socio-economic burden to the society. Conventional treatment methods like drugs, physiotherapy and surgery cannot provide an effective answer as it fails to address the associated peculiar challenges of MMSP's thus creating an orthopedic health care dilemmas. Yoga, an ancient Indian art, is known for its holistic healing. Unlike other exercises which most of the times is one-dimensional, yoga provides a multidimensional approach which improves the physical, mental, emotional and spiritual well being of a person. It also helps in controlling the accompanying co-morbidities, co-musculoskeletal and co mental conditions and reduces stress which enhances healing. When combined with modern medical treatment as an add-on, it can provide an effective answer to the dilemmas of orthopedic health care in the management of these complex problems. Several RCT's have been conducted by me on the role of Yoga as an add-on to modern treatment methods in acute and chronic low backache and neck pain, osteoarthritis of the knees, osteoporosis and even traumatic conditions like acute Spinal Cord Injury and fractures. 3 research publications of my clinical trial on the role of add-on yoga therapy in osteoarthritis knees was chosen by AAOS in framing the 2013 Non-arthroplasty guidelines with a strong recommendation. A first time path breaking research on fractures and acute spinal cord injuries also showed that advanced yoga therapy accelerates fracture healing and reduces the rehabilitation time in fractures and Spinal Cord injuries too. So the need for a paradigm shift from the uni-dimensional conventional approach to a multidimensional evidence based wholistic approach is certainly need of the hour in treating the MMSP's and needs to be embraced globally. This will bring the much needed improvement in the orthopedic health care across the world.

Speaker Biography

John Ebnezar is an internationally renowned orthopedic surgeon, passionate about creating, conceptualizing, implementing preventive new orthopedic health awareness modules with an aim to propagate low cost orthopedic health care. He is specialized in trauma, spine, geriatric orthopedics and sports medicine. He holds Guinness World Records both for academics (2010) and social service (2015), only orthopedic surgeon in the world to do so. He is a PhD in yoga, involved in 6 original-yoga researches, won Best Research Award from SVyasa Yoga University (2012) for his work on knee arthritis and role of yoga in fracture healing (2010). He has pioneered a new treatment method, WHolistic Orthopedics, by blending modern orthopedics with Indian Yoga.

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