



# WORLD NEUROLOGY

THE OFFICIAL NEWSLETTER OF THE WORLD FEDERATION OF NEUROLOGY

WORLD BRAIN DAY 2023

## Leave No One Behind

Working to promote brain health and disability.

BY TISSA WIJERATNE, DAVID DODICK, STEVEN LEWIS, WOLFGANG GRISOLD

**O**n World Brain Day, work continues to prevent brain disorders, diagnose brain disorders earlier, provide access to life-changing treatments and rehabilitation therapies, and improve the quality of life for those living with brain disorders with less disability and no stigma.

Health, defined by World Health Organization (WHO), is “a state of complete physical, mental, and social wellbeing and not merely the absence of disease or infirmity.”

Brain health, defined by WHO is “the state of brain functioning across cognitive, sensory, social-emotional, behavioral and motor domains, allowing a person to realize their full potential over the life course, irrespective of the presence or absence of disorders.”

Our brain health is the key to our overall health — it’s the agent for all human

actions and experiences as a species.

Disorders affecting the health of our brains continue to be the **leading cause of disability** globally. However, many of these brain disorders can be prevented by modifying our risk factors.

For example, worldwide, around **50 million people have dementia** — but **nearly 50% of dementia** cases can be prevented by taking steps that include maintaining a healthy weight, keeping away from smoking and too much alcohol consumption as well as learning new hobbies.

If we look at strokes, there are more than **80 million people currently living who have experienced stroke** — and around **90% of those strokes** could be prevented by addressing just over **10 modifiable risk factors** that include things like treatment of hypertension, increased physical activity, and maintaining a healthy diet.

But there’s a lot to do to achieve these



DAVID DODICK



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targets and save brains globally. A crucial step in changing these trends is to raise awareness of brain health.

**World Brain Day** was launched on July 22, 2014, as an annual, global **World Federation of Neurology (WFN)** advocacy campaign promoting brain health. It aims to educate everyone about the importance of keeping their brains healthy.

Every year, we focus on a different area of brain health.

This year, WFN and the **World Federation of Neurorehabilitation (WFNR)** have teamed up with the aim of raising awareness on **brain health and disability: Leave no one behind** globally.

Brain disorders such as stroke,

migraine and headache disorders, dementia, head injuries, epilepsy, Parkinson’s disease, neuroinfections such as meningitis and over 400 disorders affect **approximately over three billion people of all ages globally** and the **leading cause of disability** and **second leading cause of death** globally.

Debilitating neurological diseases impact every aspect of a person’s life, with effects ranging from cognitive impairment to significant physical disability. Brain health-related disability will continue to increase as we continue to live longer. Raising awareness of brain health, preventative brain health is critical as we try and mitigate this issue globally.

see **WORLD BRAIN DAY** page 2

### PRESIDENT’S COLUMN

## Update of WFN, WCN, and World Brain Day

Get an update on the latest activities of the World Federation of Neurology.

BY WOLFGANG GRISOLD

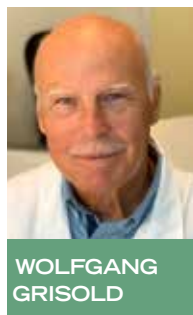
**W**elcome to World Neurology. I want to update you on the proceedings of the WFN.

This newsletter, which is edited by Steven Lewis and Walter Struhal, has approximately 15,000 readers and has become a valuable resource of information, not only for member societies, but all aspects of neurology worldwide.

Please follow us on our [website](#), which is constantly updated as well as

on social media. In addition to the front website page, look at the toolbar, and you will find more detailed information on World Brain Day, WFN activities, including with the WHO, and the World Congress of Neurology, where a link takes you to the congress page. Also, you will find the current issue of World Neurology

on the website, and an archive of all existing World Neurology editions. We are constantly uploading new pieces of



WOLFGANG GRISOLD

information on the front page as well as on the rotating banner.

The trustees, in addition to the monthly meeting, have two live meetings a year, one in the spring and the other in the autumn. This year, they met at the April AAN meeting in Boston. In addition to a leadership meeting with the American Academy of

Neurology, we were also invited to several activities, such as Head Talks on global health topics and participation in the Joint

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## FROM THE EDITORS

BY STEVEN L. LEWIS, MD, EDITOR,  
AND WALTER STRUHAL, MD, CO-EDITOR

**W**e'd like to welcome all readers to the June 2023 issue of *World Neurology*.

The issue begins with the article and reminder by Dr. Tissa Wijeratne and Dr. David Dodick (co-chairs of World Brain Day) and Dr. Wolfgang Grisold (WFN president) and Dr. Steven Lewis (WFN secretary general) of the upcoming World Brain Day 2023, dedicated to "Brain Health and Disability," including collaborations between the WFN, our global regions, national neurologic societies, and the World Federation of Neurorehabilitation. All WFN regions, societies, and neurologists worldwide are encouraged to take part in this year's efforts.

In this issue's President's Column, WFN President Dr. Grisold updates us on the many international activities in progress with the WFN, including planning for the World Congress of Neurology in Montreal this October, World Brain Day, and many other global activities, including collaborations with the WHO and work being done in relation to the Intersectoral Action Plan (IGAP) and the UN ECOSOC among so many other ongoing collaborative WFN activities throughout the world.



STEVEN L. LEWIS, MD



WALTER STRUHAL, MD

In this issue's History Column, Dr. Peter J. Koehler details the history of brain stimulation for psychiatric disorders, which he notes preceded the development of this modality for movement disorders. Dr. Massimo Leone next describes an important collaborative educational effort to improve treatment of epilepsy in sub-Saharan Africa, helping fulfill the promise of IGAP.

Dr. Bindu Menon and Dr. Medha Menon provide a well-illustrated report on their remarkable outreach program to improve the health of the patients in Nellore, Andhra Pradesh, India. Dr. B. Jeanne Billoux and Dr. Avindra Nath next provide a timely update of several current and emerging topics in neuroinfectious disease. Dr. Rabwa Fadöl then reports on her experience in Sudan as a recipient of a grant to participate in the EEGonline Distance Learning Program created by Dr.

Lawrence Tucker and colleagues in Cape Town.

Dr. Dilraj Singh Sokhi next reports on the highly successful *Continuum* program in Kenya, one of many worldwide examples of this successful collaborative effort between the AAN, the WFN, and our member societies.

Dr. Vladimir Hachinski, a WFN past president, provides a personal and heartfelt obituary on Dr. James F. Toole, WFN president from 1997-2001, who passed away in 2021.

The issue ends with the report from the WFN Nominations Committee regarding the nominating committee's recommended candidates for the positions of WFN Treasurer and WFN Elected Trustee (followed by the statements from these candidates); the nominating committee report also provides a description of the method by which additional nominations can be made.

In closing, we want to again thank all readers for their interest in and attention to *World Neurology* and the privilege to report such important updates about neurology and neurologists from around the globe. We look forward to celebrating World Brain Day soon after this issue is published, and to seeing many of you at the WCN in Montreal (in person or virtually) this October! •

## WORLD BRAIN DAY

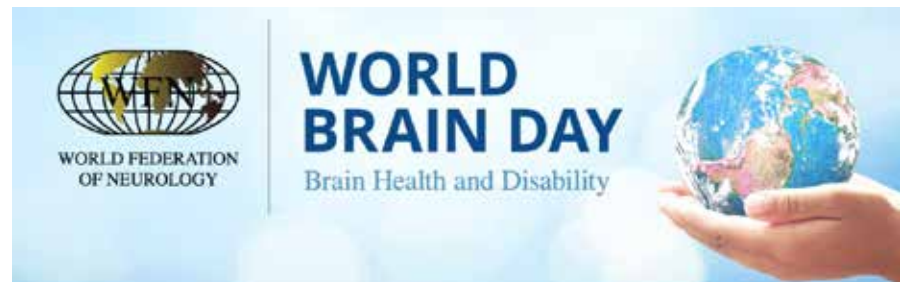
*continued from page 1*

Early diagnosis of brain disorders is important as appropriate treatment and rehabilitation programs culminating toward reduced disability. Supporting clinical research is key to the success of treating people with over 400 neurological disorders.

The past decades have shown an increase in research and many bedside developments, which could and should be implemented in clinics around the world. Not only for the improvement and benefit of the patients, but to also change the concept of therapy in many neurological disorders radically.

By raising awareness of the treatments available and working with health care professionals around the world to recognize the signs and symptoms of neurological disorders, many more people can be diagnosed early and effectively treated.

For 2023, the WFN choose Brain Health and Disability as the theme, continuing our efforts on brain health, and aligning with **WHO's efforts to fight disability worldwide**. Disability can be prevented, rehabilitated, and also needs to be under neurological care in chronic and chronic progressive diseases.



The aim of WBD 2023 is to alert not only its member societies but also the public on the critical neurological issues issue of disability. The organizing committee will represent the global regions, and we partner with the WFN.

Member societies of the WFN will receive a "tool kit," templates for press releases, and educational PowerPoint presentation sets to assist in their local activity to promote WBD and advocate for brain health and disability. Local press conferences, press coverages (eg, print, electronic, radio, TV, YouTube channels) are strongly encouraged to reach the public.

Please join the **World Brain Day 2023 campaign for Brain Health and Disability**, as this is an important priority.

*The World Federation of Neurology is hosting a global webinar on July 22, 2023, at 9 p.m. AEST with a live question-and-answer session. You can join the webinar and pre-register your interest [here](#).* •

### For additional information, please see:

World Brain Day 2023 - Brain Health and Disability: "Leave no one behind."  
Wijeratne T, Dodick DW, Lewis SL, Guekht A, Pochigayeva K, Grisold W.

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The World Federation of Neurology World Brain Day 2023.

Grisold W, Dodick DW, Guekht A, Lewis S, Wijeratne T.

*Lancet Neurol.* 2023 Jun 29:S1474-4422(23)00240-5. doi: 10.1016/S1474-4422(23)00240-5. PMID: 37393928

Drs. Tissa Wijeratne and David Dodick are co-chairs of World Brain Day. Dr. Wolfgang Grisold is president of the World Federation of Neurology, and Dr. Steven Lewis is WFN secretary general and editor of *World Neurology*.



## HISTORY

# Brain Stimulation for Psychiatric Indications Preceded Movement Disorders

A historical sketch.

BY PETER J. KOEHLER

Most neurologists are probably unfamiliar with the history of deep brain stimulation (DBS). Although Parkinson's disease (PD) is probably the best-known indication, several refractory psychiatric disorders may be treated by DBS. Obsessive compulsive disorder (OCD) and depression may be mentioned with this respect. A recent dissertation from the University of Utrecht, Netherlands, by psychologist Max van der Linden shows that research in this field had already started in the 1950s.<sup>1</sup>

## Somatic Therapies in Psychiatry

Several types of so-called somatic therapies may be recognized in the history of psychiatry. These evolved in a period in which neurology and psychiatry were still taught and practiced simultaneously by neuropsychiatrists in most places, except a few large cities, where it had already been split. Nobel Prize winner and Austrian Julius Wagner-Jauregg (1857-1940) started with malaria therapy for general paralysis of the insane (GPI) in the early 20th century. We already read about this in *World Neurology* (Volume 35, issue no. 4 of October/November 2020, pp. 5 and 10).

In the 1920s, Austrian Manfred Sakel (1900-1957) developed insulin coma therapy for schizophrenia (see *World Neurology*, Volume 37, issue no. 1 of January/February 2022, pp. 4-5). This was soon followed by metrazol shock therapy in the 1930s, developed by Hungarian

neuropsychiatrist Ladislav Meduna (1896-1964) and by electroconvulsive therapy (ECT) invented by professor of neuropsychiatry in Rome Ugo Cerletti (1877-1963) in cooperation with Lucio Bini (1908-1964) in 1938. ECT soon replaced the earlier shock therapies, as it was easier and safer to apply. Psychiatrist and historian Joel Braslow, who also included hydrotherapy and sterilization in his review of somatic therapies, reported that within a year after the introduction of ECT in the United States (1941), 42% of 356 psychiatric institutes had electroshock machines.<sup>2</sup>

Less well-known is that Roy R. Grinker (1900-1993) in Chicago also made the step from animal to human experimentally applying electricity, in this case with nasopharyngeal electrodes.<sup>3</sup> Interestingly, he and psychoanalyst Helen V. McLean (1894-1983) tried to combine neurophysiological and psychoanalytical ideas to explain the effects of shock therapy. The core of their theory was the existence of supposed tension between the emotional biological drives in the diencephalon and the suppressive influence of the superego, believed to be located in the cerebral cortex. Blocked brain pathways were thought to be the cause of mental health symptoms. This in fact shows that the separation between the biological and psychoanalytical perspectives in psychiatry in the United States between the 1930s and 1950s was less extensive than had previously been assumed.<sup>1, p. 107-19</sup>

## Ablative Treatments

In the meantime, the Portuguese neurologist António Egaz Moniz (1874-1955) presented his ideas on leucotomy at the second Neurological Congress in London (1935). Frontal lobotomy was popularized by the American neurologist Walter Freeman (1895-1972) and neurosurgeon James W. Watts (1904-1994). Eventually Freeman was able to do the procedure on his own within a few minutes. Thousands of patients underwent this procedure, in particular in the U.S., England, and Scandinavia.<sup>4,5</sup> Because of the risk of severe complications, more limited surgical procedures were being explored, including orbital undercutting, topectomy (Brodmann areas 9 and 10), and open cingulotomy.<sup>6</sup>

Although stereotactic neurosurgery had already been introduced by neurosurgeon Victor Horsley (1857-1916) and house-surgeon/ anatomist/ physiologist Robert Henry Clarke (1850-1926) in 1908, their apparatus was based on skull landmarks and therefore inaccurate. It was mainly used in animal experiments.

In 1918, Canadian neuroanatomist/ neuropathologist Aubrey T. Mussen (1873-1975) developed a stereotactic device for human use.<sup>7</sup> Practice with a stereotactic device in humans only started in the 1940s, when Spiegel and Wycis used radiographic techniques, imaging landmarks like the ventricles with pneumoencephalograms (PEG)

and the calcified pineal gland. In fact, the introduction in 1947 of *stereoencephalotomy* by originally Austrian neurologist Ernst A. Spiegel (1895-1985), who emigrated to Philadelphia in 1930, and neurosurgeon Henry T. Wycis (1911-1972) was aimed in the first place to refine leucotomy in cases of obsessions, depression, schizophrenia, and pediatric mental deficiency.<sup>6,9</sup>

"This apparatus is being used for psychosurgery. In a series of patients studied in collaboration with H. Freed [psychiatrist Herbert Freed (1908-1976)], lesions have been placed in the region of the medial nucleus of the thalamus (medial thalamotomy) in order to reduce the emotional reactivity by a procedure much less drastic than frontal lobotomy".<sup>8</sup> The thalamus had become the area of interest, as retrograde Wallerian degeneration in autopsied lobotomized patients pointed to this place. They later shifted their focus to movement disorders, starting with pallidotomy for chorea.<sup>10</sup>

## Deep Brain Stimulation (DBS) in Psychiatry

A similar motivation was given when searching for electrical stimulation methods that were less dramatic procedures than ECT. After the introduction of stereotactic neurosurgery, Heath and Delgado used this method to insert electrodes for registration as well as intermittent stimulation in these patients. Working at the department of psychiatry

see HISTORY page 4



Victor Horsley (Courtesy Wellcome Institute, London).



Robert Henry Clarke (Courtesy Wellcome Institute, London).



Ernst A. Spiegel (Courtesy NIH, National Library of Medicine, Digital Collections).



Henry T. Wycis (Courtesy NIH, National Library of Medicine, Digital Collections).

## HISTORY

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and neurology at Tulane University, New Orleans, psychiatrist Robert Galbraith Heath (1915-1999) was among the first to set up an interdisciplinary non-convulsive stimulation program for psychiatric patients. He started stimulating schizophrenic patients in the early 1950s and described the first 19 patients in his 1954 monograph *Studies in Schizophrenia*.

About the same time, neurophysiologist/neurobehaviorist José M. Delgado (1915-2011), who had moved on a grant from Madrid to Yale, was working with John F. Fulton (1899-1960), applying stimulation in the brains of animals. In 1951, he started cooperation with neurosurgeon Hannibal Hamlin (1904-1982), stimulating the frontal brain of schizophrenic patients before they underwent lobotomy. As for the animal experiments, he developed telemetric electrical stimulation for his laboratory animals so that they were able to move freely. Famous is Delgado's experiment in the 1960s with a bull in the arena that he could stop by remote control.<sup>11</sup> In the first years, electrodes would remain projecting from the skull, but in the 1970s following the introduction of cardiac pacemakers in late 1950s and 1960, this could be avoided by the use of subcutaneous stimulators that could deliver continuous non-convulsive stimulation.

Although many other researchers were working in this field, I will mention one more, notably the Norwegian neurophysiologist Carl Sem-Jacobsen (1921-1991), who worked at the Mayo Clinic in Rochester, Minnesota. In cooperation with neurologist Reginald Bickford (1913-1998), he initially used depth registration of epileptic and psychotic patients before selecting the site of prefrontal leucotomy. Later, they investigated the effects of stimulation and found that behavioral responses of

the patients often persisted long after the stimulation. Some patients improved remarkably from the stimulation experiments.<sup>1,p.184-5</sup>

## DBS for Parkinson Disease

Sem-Jacobsen eventually shifted his interest to the surgical treatment of PD applying this same technique and publishing the results in 1966. Chronic stimulation, sometimes for days or a week, was used to identify the best site for making the lesion.<sup>12</sup> Natalia P. Bechtereva (1924-2008) presented the idea of chronic subcortical stimulation as a permanent therapy in the early 1970s and coined the term therapeutic electrostimulation. However, as implantable neurostimulators were not available in the USSR at the time, small lesions were applied.<sup>9</sup> Several other investigators were working in the field, until the most important work by neurosurgeon Alim L. Benabid (b. 1942) and neurologist Pierre Pollak (b. 1950) in Grenoble (France) was published in 1987. In PD patients with bilateral tremor, they performed thalamotomy contralateral to the most severe tremor and carried out continuous stimulation for the other side. They concluded that "VIM [thalamic nucleus ventralis intermedius] stimulation strongly decreased the tremor but failed to suppress it as completely as thalamotomy did... This therapeutic protocol appears to be of interest for patients with bilateral extrapyramidal movement disorders".<sup>13</sup> Indeed, bilateral thalamotomies had important long-term adverse effects, including dysarthria and ataxia.<sup>14</sup>

## Concluding Remarks

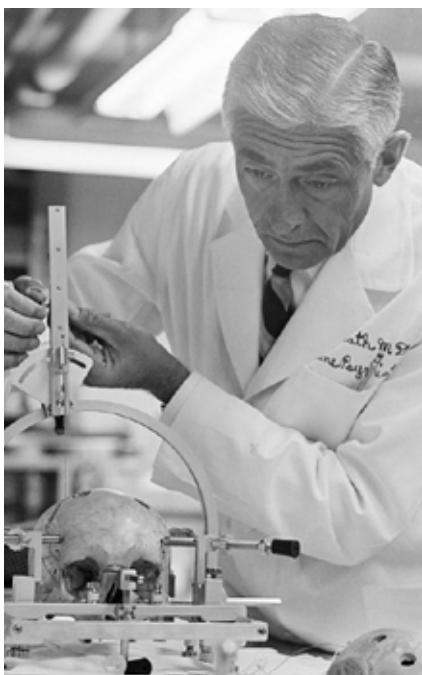
We learn that human stereotactic ablation as well as electric deep brain stimulation for psychiatric diseases preceded that for movement disorders. At present, intractable OCD is the main psychiatric indication for DBS and treatment-resistant depression is a promising second indication.<sup>15</sup> Unfortunately,

In the first years, electrodes would remain projecting from the skull, but in the 1970s following the introduction of cardiac pacemakers in late 1950s and 1960, this could be avoided by the use of subcutaneous stimulators that could deliver continuous non-convulsive stimulation.

Van de Linden's dissertation *Elektrisch Evenwicht* [Electric Equilibrium], which can be downloaded from the University of Utrecht website (Elektrisch evenwicht: Een geschiedenis van diepe hersenstimulatie bij psychiatrische stoornissen (1860-2020) (uu.nl)), was written in Dutch. However, with modern tools the pdf of the book (470 pages) can easily be read in other languages. •

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Robert Galbraith Heath (Creative Commons Licence).



José M.R. Delgado (Courtesy NIH, National Library of Medicine, Digital Collections).



Natalia Bechtereva (Creative Commons BY 4.0).



Cover of Van der Linden's dissertation *Elektrisch Evenwicht* [Electric Equilibrium].



## PRESIDENT'S COLUMN

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Committee on the Continuum program.

The AAN, as all regional societies, will also participate at the World Congress on Neurology with joint lectures, and we're glad about these fruitful cooperations. At the upcoming EAN meeting, which is the regional European meeting, the WFN will participate in several meetings. I am happy to report that the WFN also participated in the Pan American Federation of Neurological Societies (PAFNS) meeting in Lima, Peru. The images show the historic program of the first American congress in 1963, the booth of the Peruvian society at the PAFNS congress, and an image showing the stroke unit in the National Institute of Neurology in Lima, Peru.

We will also participate in the next meeting of the Indian Academy of Neurology in September for the Asian region. As reported before, the WFN was able to attend the PAUNS meeting in Jeddah in January 2023. The AFAN will not hold a meeting this year, but we will participate in the joint Regional Training Course (RTC) as well as organize two educational days for Africa.

### World Congress of Neurology

The WCN will be in Montreal from Oct. 15-19, 2023, and we look forward to this in-person congress, which will also have a virtual part, and thus will be hybrid. This has several reasons. We consider a hybrid part important, we will be able to reach more persons worldwide, who can not travel for visa issues, financial reasons, or other causes. Also, the congress participants will be able to look at the program at sessions, which they may have missed.

The preparations are developing smoothly, and we have the great support of the Canadian Neurological Society and our Professional Congress Organizer (PCO) Kenes. On the day before the meeting, we will have a patient day, following the successful tradition of Vienna and Kyoto congresses, and



Visit at the stand of the Peruvian Society of Neurology in Lima.

will be targeted at patients and patient organizations, to communicate new developments in neurology, at the occasion of the congress.

The WCN program will contain 10 plenary sessions, scientific topics often jointly with other societies, free presentations, posters (live and e-posters, for persons who can only participate virtually) and a large number of teaching courses. In addition this year, we will have a few new items such as lectures designed by young neurologists, debates, Meet the Professor sessions, and open "coffee" sessions where topics can be discussed with a small faculty. Needless to say, the Tournament of the Minds will be continued during the congress.

There will also be WFN awards given, such as the Angela Vincent Award for Young Researchers, as well as the Ted Munsat Award for Education, which will be co-sponsored by the AAN. Elsevier, the publisher of our journals *JNS* and *eNS* will donate three awards for the best scientific abstract and three awards for the best clinical abstract.

I am happy to report that the concept of the WFN Training Centers started in 2013 in Rabat, and we will take this opportunity to have a celebration session on the occasion of 10 years of training centers of the WFN. We welcome you to attend.

The meeting is expected to be accredited by the UEMS EACCME, which also includes accreditation by the Canadian Royal Society and the AMA. We are aware of the importance of CME/CPD for meetings, and we will have a special educational session by experts



Stroke Unit in the National Neurological Institute in Lima, Peru.

from the UEMS on this important topic.

We have also created an attractive opening and reception, and the networking event, which will give the opportunity for informal exchanges.

We are thankful for industry support, and we expect to also have exciting industry-sponsored symposia, as well as an attractive exhibition.

There will be a Council of Delegates (CoD) meeting in Montreal giving an overview on the activities of the WFN. There will also be elections for the position of treasurer and of a trustee. The Nominating Committee of the WFN is an independent committee composed by regional experts, and chaired by Raad Shakir (past, past-president). We have had many valuable applications from the regions and the task of this committee was to create a shortlist of candidates. This shortlist is published now online, and also statements from the suggested candidates are in this issue. According to the rules of the WFN, any other candidate supported by five member societies can apply until 30 days before the election. These additional candidates will be published online according to that timeline. We thank all applicants for the position for their enthusiasm to support the WFN.

The next WCN will be in Seoul, South Korea, in 2025, and the first meetings will start taking place in Montreal as the preparation for such events usually last two years.

### World Brain Day

In July 22, the WFN celebrates its foundation, and since 2014, we celebrate a WBD on different topics and with changing partners in previous years. This year's topic is "Brain Health and Disability." It is based on the successful campaign for brain health in the past year, and the regional societies as well as the World Federation of Neurorehabilitation are partnering with us. The topic was chosen to raise awareness on disability in neurological diseases. As neurological diseases are the most frequent cause of disability, this topic is highly relevant as according to the Global Burden of Diseases (GBD), neurological diseases are the most frequent cause of disability. Disability, looking from history until present times, has been subject to many cultural and ethical influences and stigma. For neurological diseases, it will be important to more clearly define the individual types of disability for different



Historic program cover from the first Panamerican Congress in 1963. Congress president Oscar Trelles.

diseases.

Fortunately, a number of disabilities are transient and reversible or can be improved by rehabilitation. However, a large number are permanent, and often progressing. It is important that the U.N. considers disability as a human right, and not being subject to charity. Yet for many reasons, such as socioeconomic factors, regional, and cultural aspects, we still have a long way to go.

This WBD is intended to alert on the importance of disability in neurological diseases and alert awareness, and hopefully will create new working groups to define disability in neurological diseases, and most importantly, stimulate treatment and procedures.

We want to remind our readers that as in previous WBDs, we have created a toolkit, which is available for all member societies on the website. This toolkit can be used freely for the organization of a local WBD, which gives a good chance to bring awareness of disability and also the importance of neurology. We will be supporting this activity by press mailings, social media, and on the WBD, we will have a webinar on brain health and disability.

### Global Activities

The WFN with 123 member states, six regions, and the Global Neurology Alliance, are a strong and powerful association. We are glad to fulfill the criteria to be a non-state actor (NSA) with the WHO and the UN ECOSOC. This gives us the opportunity to hear and learn of these global health activities, as well as attend some meetings and raise the voice of neurology, either in specific collaborations, or "interventions" at meetings. This year, we have attended several meeting virtually and in person, and I would like to mention the 75th Health Assembly in Geneva, where the WFN attendance was shared between trustee Alla Guekht and myself.

Also, on this occasion, the WFN was able to make an intervention. The introduction of the activities of the WHO in the past year are impressive, and

see **PRESIDENT'S COLUMN** page 11



The 75th World Health Assembly in Geneva. Report by the director general, Tedros Adhanom Ghebreyesus.



# AAN-WFN *Continuum* Education Program in Kenya

Regional impact and backbone for the new fellowship in neurology.

BY DILRAJ SINGH SOKHI

There are less than 20 neurologists in Kenya, yet this number is significantly more than neighboring countries, and enough to comprise a national professional organization. The Neurological Society of Kenya reinvigorated its education and advocacy mission in 2019 by launching the first series of educational lectures for the neurologist and general physician practicing in the region. But questions arose about which topics to cover, in what order, and how to ensure up-to-date information was being disseminated. The most appropriate solution that addressed these concerns was to refer to the *Continuum* series, delivered to us from the AAN-WFN Education Program, and follow the topics contemporaneously. And so, we had talks delivered by regional and international experts on dementia, epilepsy, multiple sclerosis, headache, and neuromuscular disease. The respective copies of the journal were also shared with attendees during each event.

The resulting bolstered regional collegiality from this lecture series seeded two ideas. The first idea was to launch a postgraduate fellowship in neurology in East Africa. Designing the first such program in the region from scratch was ripe with opportunities to combine best practices from different parts of the world, given our founding fellowship committee members included graduates from Europe, India, South Africa, the United Kingdom, and West Africa. We adapted (with permission) the curriculum from the UK to suit our environment, which was already mapped (by the author) to articles in the BMJ's *Practical Neurology* journal. The pandemic delayed the start of this

novel training fellowship in the region by a couple of years, so our first two fellows joined in 2022, and we have two more joining this year. We dedicate Friday afternoons to deliver case-based discussions in a flipped classroom model and then follow the sequence of topics as covered by the *Continuum* series, which is also mandated as the main reference journal in the sessions. Our sights are now on applying for WFN accreditation of our training site in the coming years.

The second idea was to organize a regional conference to bring together the few neurologists in neighboring countries. Again, the idea was shelved during the pandemic, but in May 2022, we held the first multiple sclerosis (MS) conference in East Africa, followed by a headache workshop supported by a grant from the International Headache Society. The success of the conference, together with entering a more quiescent phase of the pandemic, led to a second MS conference in May 2023. In both MS conferences, the *Continuum* series were distributed to participants from a breadth of countries, and we shared our model of using the journal as the main reference point for case discussions and didactic lectures. The journals have all gone to academic institutions and referral hospitals, and will no doubt be great sources of guidance for managing patients and educating the next generation of specialists in East Africa. •

Dilraj Singh Sokhi is the founding neurology fellowship director and associate professor of neurology at Aga Khan University in Nairobi, Kenya.



The pioneer postgraduate fellows Dr. Jamil Said (left) from Eldoret, Western Kenya, and Dr. Eunice Nyambane from Murang'a, Central Kenya, enjoying the *Continuum* series at Aga Khan University in Nairobi, Kenya.



**Neuromuscular**  
(Hadi Manji, London, UK)



**Multiple Sclerosis**  
(Juzar Hooker, Kenya)



**Dementia**  
(Dan Blackburn, Sheffield, UK)



**Headache**  
(Sylvia Mbugua, Kenya)



**Epilepsy**  
(Herman Ekea, Kenya)



**Neuro-oncology**  
(Judith Kwasa, Kenya)

2019 series of educational lectures by the Neurological Society of Kenya, following the topics covered by *Continuum*.



Friday afternoon academic sessions with the new fellows.



Distribution of *Continuum* series across the region (and beyond).



# International Webinar on Epilepsy

## Update on IGAP and DREAM work treating epilepsy in sub-Saharan Africa.

BY MASSIMO LEONE

The Intersectoral Global Action Plan (IGAP) on epilepsy and other neurologic disorders is the WHO's neurology revolution calling neurologists and other stakeholders to become partners in order to contribute to improving access to care to people living with epilepsy (PLWE) and other neurologic disorders, particularly in geographic areas with poor access to care as sub-Saharan Africa (SSA).



MASSIMO  
LEONE

In the last 20 years, SSA population has doubled, and now PLWE exceeds 20 million. More than 75% have no access to treatment. There is about one neurologist for every 2 millions inhabitants so the vast majority of PLWE are managed at primary health care facilities by non-physician clinicians (NPC) whose education on the disease is insufficient. Lack of essential medicines, electricity supply interruptions, and malfunctioning sphygmomanometers are not so rare.

An epilepsy program in SSA was initiated as a partnership between the Disease Relief Through Excellent and Advanced Means (DREAM) program, the Italian Society of Neurology, the C. Besta Neurologic Institute IRCCS Milan, the Global Health Telemedicine (GHT), and the Mariani Foundation.

DREAM is a primary care program started in 2002 to prevent and treat HIV / AIDS in SSA now active in 10 nations with 50 health centers, 28 laboratories including molecular biology, more than 500,000 HIV+ patients under regular follow-up, more than 130,000 children free-from-HIV born from HIV+ mothers, more than 120 teaching courses for thousands of African health workers, and high patient retention with 1-3% lost to follow-up/year. Community health workers — activists — from the civil society play a key role. The program is part of the local public health system and has become a reliable platform to deliver and integrate care for chronic conditions as arterial hypertension, diabetes, cervical and breast cancer. The DREAM program offered the Italian neurologists the background to build a service also for PLWE.

The partnership started in 2020 in Malawi and Central African Republic, and recently was added in Mozambique. So far, 14 in-person teaching and training courses on epilepsy and other neurologic diseases (stroke and headache) have been delivered to 137 health care workers, each followed by periods of shared work on the ground (training on the job). A simplified questionnaire on basic neurological knowledge confirmed a post-course



Participants of teaching and training courses in Malawi, Central African Republic, and Mozambique.



Video.EEG in Central African Republic and Malawi; teaching and training courses; tele-EEG; dedicated buildings to epilepsy care; integrating epilepsy with other health needs; awareness campaigns; solar panel (eco-sustainability).

improvement. Two video-EEGs have been installed, and a third one will arrive soon. More than 500 EEG recordings have been sent to epilepsy specialists in Italy through the GHT telemedicine platform. In two years, local clinicians sent Italian neurologists more than 1,600 teleconsultation requests, mainly epilepsy. Neurologists can interact with other specialists of the GHT platform in case of complex patients, such as suffering from both epilepsy and HIV, post-stroke epilepsy and heart disease, etc. More than 1,350 PLWE are now receiving treatment and care at the DREAM centers.

At the end of a recent teaching course, an attendee stated, "We have learned a

lot, but we are neither neurologists nor do we have the possibility of dealing with neurologists/epileptologists. It will be hard to go far alone." Translated, this means IGAP requires more shared work between local NPC and neurologists, with a long-term perspective.

Shortage of neurologists in SSA is expected to last for several decades, making education and training of NPC a priority in the fight against epilepsy. This requires a long-term approach, key also to develop effective teleneurology. Integrating epilepsy care with other diseases, such as HIV, TB, hypertension, and malaria, is another challenge for neurologists involved in IGAP. Enhanced

cooperation between neurologists and primary health care NPCs will play an important role to make IGAP successful in SSA.

- <https://www.dream-health.org/epilepsy-and-neurology/?lang=en>
- <https://ihs-headache.org/en/news/first-rope-ihs-meeting-held-in-malawi/>
- <https://www.neuro.it/web/procedure/contento.cfm?List=WsIdEvento,WsIdRisposta,WsRelease&c1=AGGCNGNEU&c2=105&c3=1> •

Dr. Massimo Leone is from The Foundation of the IRCCS C.Besta Neurologic Institute, Milan, Italy.



## IN MEMORIAM

# James F. Toole: Stroke Pioneer, Educator, and President Multiplex (1925-2021)

BY VLADIMIR HACHINSKI, CM, MD, DSC,  
FRCPC, FCAHS, FRSC

**W**e met by mail. He asked me to contribute a chapter on the cerebral circulation to his multi-edition cerebrovascular diseases book. I felt honored. We became friends, and much later, I was the coordinator of Canadian Centers for his landmark Asymptomatic Carotid Stenosis Study (ACAS).

Along the way, I knew him as president of the American Neurological Association, the International Stroke Society, and the World Federation of Neurology (WFN).

Jim was born in Philadelphia, and educated at Princeton and Cornell Medical College. In addition, he earned a union card as a carpenter at age 12, and a Master of Laws from LaSalle University, while serving as a flight surgeon on an aircraft carrier in the Pacific.

In 1951, he saw combat in Korea, meriting a bronze star with a V for Valor. Although he had many job choices, he made his career in Bowman Gray School

of Medicine, where he became the Walter C. Teagle professor of neurology. His department became a stroke and international center attracting trainees from several continents. He pioneered team research, ultrasonography, and clinical trials in stroke. As president of the International Stroke Society, he presided over the landmark Stroke World Congress in Vancouver in 2004.

Jim had early involvement with the WFN. He was secretary-treasurer, editor of the *Journal of Neurological Sciences*, and then president (1997-2001). He convened a retreat and from it arose a Strategic Planning Group that recommends major changes to the mission, organization, and strategic goals, that have guided his successors as presidents.

After presiding over the highly successful World Congress of Neurology in 2001 in London, UK, he wrote his last President's Column. As always, with an eye on the future, he wrote that in a globalizing world, the WFN should be, "A neutral forum for the discussion of global,

regional, and approaches to neurologic illnesses" and to become "a voice in global policymaking."

I had the privilege of serving with him as chair of the Steering Committee of the WFN. At the end, he gave me a generous worded diploma, and said I was "the compass," because I kept things on an even keel. He also issued diplomas to patients participating in his studies since he believed that they play a crucial role, as they certainly do.

He was always well dressed, well groomed, and looking younger than his age. (see photo). He was courteous and calm. Stroke was a new field with few certainties. Where knowledge fails, controversies thrive, so as a pioneer he could not avoid being part of many. However, he always took the high road, earning the sobriquet of "Gentleman Jim."

In addition to his family, his wife Lady Pat, his four children, 10 grandchildren, and four great grandchildren, he leaves many pupils. Mentioning a few risks offending the many, but they know who



**Dr. James F. Toole at the World Congress of Neurology in Marrakesh 2011, aged 86.**

they are and pay daily tribute to his memory by continuing his work. They are leaders in fields where there had been no paths, and Jim left them trails. •

Vladimir Hachinski, CM, MD, DSc, FRCPC, FCAHS, FRSC, Dr hon. Causa is Distinguished University Professor at the University of Western Ontario, and a past-president of the WFN.

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# Neurology on Wheels

## An outreach of care. The way forward.

BY DR. BINDU MENON MD, DM, AND DR. MEDHA MENON, MBBS

As goes the epidemiological transition from communicable to non-communicable diseases (NCDs), India stands at the precipice of having to balance the burden of both. While managing communicable diseases like a wound that has not yet scabbed, the rising trends of NCDs like stroke, cardiovascular events, and cancers further predispose the population to infections, making them difficult to curb.

The rapid rise in cases of NCDs requires its own scrutiny and care. The seemingly sudden increase in cases is a result of efficient screening services as well as the culmination of a lifetime of unhealthy lifestyle habits. One in four Indians risk dying from an NCD before they reach the age of 70<sup>1</sup>. Of the NCDs, neurological disorders, such as stroke, epilepsy and dementia, are the major contributors to the global burden of disease. Often presenting with relatively subtler signs as compared to cardiovascular events, they tend to go unaccounted for, making it even more prudent for its detection and treatment. Of the cases coming under our radar, the prevalence of neurological disorders in India, which is more in rural areas, ranges from 967-4,070 with a mean of 2,394 patients for a population of one million<sup>2</sup>.

Stroke is a major medical emergency that causes lifelong repercussions to a patient without timely medical care. The current incidence of stroke in India is much higher than western industrialized countries<sup>3</sup>.

India's population has been set to overtake China's by the end of April 2023, reaching 1,425,775,850<sup>4</sup> with an overwhelming majority of 65% residing in rural India<sup>5</sup>.

Despite India having achieved the WHO-recommended doctor-patient ratio of one per thousand<sup>6</sup>, the lack of medical practice in rural areas shrouds their medical needs. With just over 2,500 neurologists, the reality is that a single neurologist caters to the medical needs of more than five million population. This ridiculous neurologist-patient ratio makes it nearly impossible to assure delivery of timely medical services to all. With increased medical facilities concentrating in cities, the urban-rural divide further widens.

Our job as service providers makes it our responsibility to look at the various factors that contribute to the meager medical attention received in rural areas. A deep dive into the conversations with the locals brings to light how awry education, economic constraints, and misguided prioritization contribute to this. Often the locals say, "I don't have

high blood pressure, I feel absolutely fine," in response to showing them their chronically elevated levels, sometimes touching 200/120, or "I stopped my medications because I haven't had a seizure in a while," when asked why they were not compliant to medication, and sometimes, "I thought the paralysis of my face and hands were due to high sugars," when asked why they didn't go to the hospital for treatment. However, most times, they do have genuine reasons for

not availing medical services.

More often than not, their nearest hospitals are almost 100 kilometers away, which increases the time lost to treat any emergency as well as cost of travel which the family cannot bear. But of all, the most important factor would still be the lack of awareness about the disease at hand. This lack of awareness includes not knowing the symptoms

of the disease, the importance of timely diagnosis and treatment, maintenance of drug compliance, complications of the disease, and how all of this will affect their livelihood. It is important because trying to eliminate this root cause empowers the people to identify their problem and take necessary steps as well as contribute to the decision making of their treatment. Once they make their first step to availing treatment, we can meet halfway to provide them with medical services.

We now see that it is not just the lack of medical services that increases disease burden in rural areas. Thus, a combined approach is deemed most useful to tackle the problem at hand. We must address the lack of awareness, the monetary constraints as well as lack of on-site medical services to effectively curb the problem.

For this reason, with the goal of raising awareness as well as providing free medical services in the resource-poor and remote rural sector, a novel project "Neurology on Wheels," a first-time project by the Dr. Bindu Menon Foundation was started in Nellore, Andhra Pradesh, India. This project identifies a village from the 46 mandals by random selection. The team of the foundation then visits the village after the village head has been informed about the camp in advance. The village sarpanch is also asked to prime the ASHA/ Anganwadi workers/ ANM (local women trained to act as health educators and promoters in their communities) for efficient coordination.

The motto followed is, "We reach, we teach, and we treat." Upon reaching the village, an awareness program is held for all the people attending the camp. The talk is tailored to risk factors of stroke and recognition of its symptoms, epilepsy and its prevention, and the role



of regular compliance of medicines. This way the practice of a holistic approach to healthy living is encouraged with the need to focus on dietary, exercise, and drug compliance.

Later, a free medical camp is held where screening and detection of hypertension, diabetes, epilepsy, and stroke is done, at the end of which the patients are distributed medicines. This way, new NCDs are detected, and early intervention is done to derail the original trajectory of a dangerous disease to a more controlled one. With the risk factors evaluation, the public is counseled regarding their stroke risk according to the stroke risk card. Furthermore, drug naïve stroke and epilepsy patients who are below the poverty line are incorporated into the foundation for their free medicines. This way, we can inch forward slowly to closing the treatment gap.

Neurology on Wheels is a project with potential to extrapolate to larger scales. Our team is limited, but with proper resources and manpower, it can provide as a mighty tool to bridge the urban-rural divide prevailing in India.

This project has covered 44 villages and has detected more than 416 new cases of hypertension, 133 of diabetes, 109 of untreated epilepsy, and 143 of stroke, which might not seem like a huge chunk off the actual burden of disease. However, humanizing these numbers shows us with extreme perspicuity how this project has imparted the much-needed help and treatment services to these patients who

would have otherwise contributed to the ever-growing treatment gap of NCDs in rural India. •

Dr. Bindu Menon MD, DM, and Dr. Medha Menon, MBBS, are with the Dr. Bindu Menon Foundation in Nellore, Andhra Pradesh, India.

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# Neuroinfectious Disease Update

Update on several noteworthy neuroinfectious disease issues, including arboviruses as well as COVID-19 exposure in-utero.

BY B. JEANNE BILLIOUX, MD, AND AVINDRA NATH, MD

The WHO has recently released reports denoting the expansion of cases of dengue and chikungunya beyond historical areas of transmission in the Americas, as well as warnings for increased expansion of transmission in areas of Europe that were previously unaffected (<https://www.who.int/emergencies/disease-outbreak-news/item/2023-DON448>; <https://www.bloomberg.com/news/articles/2023-04-05/europe-at-risk-of-dengue-and-zika-summer-outbreaks-who-warns#xj4y7vzkg>).

Climate change may contribute to broadening habitat for certain viral-spreading arthropods, including the *Aedes aegypti* mosquitoes that harbor dengue, chikungunya, and zika viruses.

Dengue has been on the rise this season, with many South American countries including Colombia, Brazil, and Argentina, as well as Asian countries, such as the Philippines, recording increased caseloads compared to prior seasons ([outbreaknewstoday.com](http://outbreaknewstoday.com)). The U.S. has also recorded several cases in Southern Florida, most of them related to travel, as well as autochthonous transmission in Maricopa County in Arizona this year ([https://www.floridahealth.gov/diseases-and-conditions/mosquito-borne-diseases/\\_documents/2023-week14-arbovirus-surveillance-report.pdf](https://www.floridahealth.gov/diseases-and-conditions/mosquito-borne-diseases/_documents/2023-week14-arbovirus-surveillance-report.pdf); <https://www.cdc.gov/mmwr/volumes/72/wr/mm7211a5.htm>).

Dengue may present broadly, from asymptomatic cases to hemorrhagic fever; most typically, in symptomatic cases, it

causes flu-like symptoms. Neurologic complications occur uncommonly, and include encephalopathy from multiorgan involvement, encephalitis, PRES, stroke (both ischemic and hemorrhagic), and immune-mediated syndromes such as transverse myelitis, Guillain-Barre syndrome, acute disseminated encephalomyelitis, myositis, mononeuropathies, and cyberelites. Some patients may develop hypokalemic paralysis (Trivedi 2022). No known treatments for Dengue exist, but several vaccines are in clinical trials or in various stages of gaining approval, including the recent approval in Brazil <https://www.thepharmaletter.com/article/takeda-gains-approval-in-brazil-for-qdenga?print=1>.

Chikungunya cases have also been increasing in early 2023, including a surge of cases in Paraguay and Brazil, with Brazil recording over twice as many cases compared to last year (<http://outbreaknewstoday.com/author/news-desk/>). Although the disease commonly causes fever, fatigue, malaise, and arthralgias (sometimes severe), over 200 cases of suspected meningoencephalitis have been reported due to chikungunya virus in Paraguay during this current outbreak, a rare presentation, (<https://www.cidrap.umn.edu/chikungunya/paho-warns-rising-chikungunya-cases-americas-some-fatal>) which needs to be closely watched since it could represent an evolution in viral tropism. Other known neurologic complications of Chikungunya include encephalopathy, encephalitis, myelopathy, and peripheral neuropathies, including Guillain-Barre syndrome (Brizzi 2017).

Of note, efforts to reduce transmission

## Known Neurologic Complications of Dengue and Chikungunya

Presumed Pathogenesis	Dengue	Chikungunya
Systemic	Encephalopathy Hypokalemic Periodic Paralysis	Encephalopathy
Neuroinvasive	Encephalitis	Meningoencephalitis/ Encephalitis
Vascular	Stroke PRES	
Immune Mediated	Transverse Myelitis Guillain Barre Syndrome ADEM Myositis Mononeuropathy Cerebellitis	Myelopathy Guillain Barre Syndrome

of dengue, chikungunya, and the neurovirulent zika virus by using Wolbachia bacteria infection in *Aedes aegypti* mosquitos have been underway in a number of different areas with varying levels of success. Wolbachia infection of these mosquitos essentially blocks viral replication of dengue, chikungunya, and zika in the mosquito, leading to decreased transmission of these viruses. Recent reports by the World Mosquito Program have noted decreased dengue spread in Java, Indonesia, and the Aburra Valley in Colombia, among other places, where the Wolbachia-infected mosquitos have been released (<https://www.worldmosquitoprogram.org/en/learn/scientific-publications>).

In COVID-19 related news, a recent case series has reported two neonates born with brain abnormalities thought to be related to in-utero exposure to SARS-CoV2. Both babies were born to mothers who had contracted SARS-CoV-2 in their second trimesters (one with re-infection during the third trimester). Both babies were SARS-CoV-2 negative at birth, but had microcephaly, seizures starting on the day of delivery, and developmental delay over time. Both infants had SARS-CoV-2 antibodies and elevated inflammatory markers, and the placenta from each case also displayed SARS-CoV-2 proteins, increased inflammatory markers, as well as evidence of decreased fetal perfusion.

One infant died at 13 months of life; on autopsy, the infant was found to have white matter loss, gliosis, vacuolization, as well as evidence of SARS-CoV-2 viral proteins by immunofluorescence throughout the brain, indicating viral infection. The authors note that these two cases are extremely rare, but indicate that in-utero exposure to SARS-CoV-2 in the second trimester has the potential to cause neurodevelopmental sequelae (Benny 2023). •

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# My Experience With the EEGonline Distance Learning Program

BY DR. RABWA FADOL

Many thanks to Dr. Lawrence Tucker and his team for organizing the online 2022 EEG course and to the World Federation of Neurology (WFN) for sponsoring me as a junior neurologist for such an outstanding course. It is so valuable, informative, and well organized.

I joined this course while I was in the last year of my MD neurology training in Sudan. My target in the course was to expand my knowledge about the basics of the EEG, its implications in diagnosing different neurological disorders as well as sleep disorders, as I worked in a sleep lab for a couple of years.

The course was well structured from the basic concepts up to the reporting of the EEG.

The display of information by different ways, such as lectures, videos, audios,

interactive discussions (epochs) with nice comments from the EEG experts, and frequent assessments by end-of-module quizzes made the subject easier to understand and interesting. The time management for the different modules was excellent (suitable and flexible) enabling us to follow smoothly.

Thanks to God that I passed both the EEG exam as well as my MD neurology exam at the same time. And I hope to implement this knowledge in my practice and to teach the junior colleagues in order to improve our health care system.

I hope the WFN will offer more opportunities to more candidates in our country and other sub-Saharan countries to attend this course and other neurological studies to help us improve our care to the patients. •

Dr. Rabwa Fadol is a Sudanese neurologist.





# 2023 WFN Elections

## Report of the WFN Nominations Committee

One Treasurer and one Elected Trustee are to be elected at the Council of Delegates (CoD) Annual General Meeting (AGM) in October during the World Congress of Neurology in Montreal. The nominating committee of the World Federation of Neurology (WFN) now recommends to the membership those listed here as candidates in accordance with the Federation's Memorandum and Articles of Association.

### RECOMMENDED CANDIDATES

#### TREASURER TO TAKE OFFICE JAN. 1, 2024

1. Prof. Marianne de Visser (The Netherlands)
2. Prof. Barbara Tettenborn (Switzerland)

#### ELECTED TRUSTEE TO TAKE OFFICE IMMEDIATELY AFTER THE COD MEETING

1. Dr. Lawrence Tucker (South Africa)
2. Dr. Mohammed Wasay (Pakistan)
3. Dr. Tissa Wijeratne (Sri Lanka / Australia)

The deadline for submitting candidates for nomination was April 3, 2023. Nominations made after this deadline are possible. To nominate another individual (who must be a member of a WFN member society),

- Obtain the supporting signatures of five or more authorized WFN delegates.
- Submit the name(s) of the

individual(s) in question to the Secretary General, along with a CV and a letter of the candidates agreement to stand.

- Send to WFN headquarters at [info@wfneurology.org](mailto:info@wfneurology.org) 30 days prior to the start of electronic voting on Sept. 22, 2023.

### VOTING TIMETABLE

Voting will take place by electronic voting (remote online ballot). This method of voting enables all member societies to vote in the elections, regardless of whether they are attending the CoD meeting. Voting will be carried out in advance of the WFN AGM of the CoD. The election results will be announced at the CoD meeting.

- Registration to attend the WFN AGM CoD Meeting and to vote will open Sept. 1, 2023.
- Voting will open for two weeks between Friday, Sept. 22, 2023, @ 12 p.m. UTC and Sunday, Oct. 8, 2023, @ 12 p.m. UTC.

The method of voting and timetable provides voters ample time and opportunity to register, and equity when making their vote without adverse conditions such as differences in time zones, or stresses due to travel restrictions that may impact their sound decision-making.

For more details on the method of voting, please contact [info@wfneurology.org](mailto:info@wfneurology.org).

**See the Candidate Statements beginning on page 12.**

## PRESIDENT'S COLUMN

*continued from page 5*

from the standpoint of neurology the eradication programs of polio, and also the success in malaria vaccination will have direct influence on neurological diseases. Sadly, the Intersectoral Global Action Plan for Epilepsy and other Neurological Disorders (IGAP) and the importance of its implementation was not included in the achievements from last year.

The main activity at present for neurology in cooperation with the WHO is the IGAP, which has been discussed several times in the editorial, and in World Neurology. Also, a short summary written by the trustees is available on the website, as published in the *Journal of the Neurological Sciences*. I want to remind readers that the WHO paper is a unique opportunity for neurology worldwide, and also reminds us that neurology is not only science and practice, but needs to involve public health work (*World Health Organization. Draft intersectoral global action plan on epilepsy and other neurological disorders 2022-2031.*)

The content of the IGAP could not be more favorable for the worldwide improvement or even implementation of neurology in all aspects of health care. Yet, from the neurological WFN community, and based on several personal interactions, as well as a survey from the WFN asking delegates and societies on their knowledge and

awareness of the IGAP it created a response of only 20%, after two subsequent surveys we know that the acceptance and practical use of IGAP could be better. This raises concerns, as not being aware of this important tool, it does not allow to use it although it is bitterly needed in some parts of the world. There are of course exceptions, and efforts are being made to implement the IGAP in the health system by some member societies.

The WHO is working on a toolkit for better visibility and implementation of the IGAP, and the WFN will be pleased and helpful in distributing this activity.

Finally, I would like to add a list of important WFN dates.

- WBD and the WBD webinar: July 22, 2023 (Free access)
- WFN IHS Education Day: Sept. 23, 2023 (Free access)
- WCN Montreal: Oct. 15-19, 2023: See the Congress website.
- WFN AON Educational Day for Asia on Stroke: Nov. 18, 2023 (Free access)
- ICNMD virtual update; Virtual Neuromuscular update conference by the Specialty Group on Neuromuscular diseases. Virtual 2-day meeting. For low-income countries, a contingent of free participation for young neurologists will be announced. Please check the website. Nov. 30-Dec. 1, 2023
- WFN AFAN Education Day on Neuropathies: Dec. 2, 2023 (Free access) •

**The content of the IGAP could not be more favorable for the worldwide improvement or even implementation of neurology in all aspects of health care. Yet, from the neurological WFN community, and based on several personal interactions, as well as a survey from the WFN asking delegates and societies on their knowledge and awareness of the IGAP ...we know that the acceptance and practical use of IGAP could be better.**



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**CANDIDATE STATEMENT FOR TREASURER:  
MARIANNE DE VISSER****Marianne de Visser**

**M**y name is Marianne de Visser. I am an adult neurologist and (emeritus) Professor of Neuromuscular Diseases at the University of Amsterdam, the Netherlands.

I would like to apply for the position of treasurer.

I have been committed to the good cause of the WFN for several decades. I have served under inspiring presidents. First, as a delegate on behalf of the Netherlands Society of Neurology, subsequently as an elected trustee under the late Presidents Jun Kimura and Johan Aarli. Under Bill Carroll's presidency, I was chair of the Nominating Committee, and most recently, co-opted trustee. President Wolfgang Grisold appointed me as chair of the Membership Committee and chair of the Committee for Diversity, Equity, and Inclusion.

I have witnessed the growth of WFN. The increasing membership, but also the expanding role of the WFN in several impactful initiatives worldwide, are clear signs of leadership.

The close collaboration with the WHO has borne fruit for neurology.

One example is the Neurology Atlas, showing the country resources for neurological disorders. The data highlight

that while the burden of neurological disorders is disproportionately high in low- and middle-income countries, health care services and resources are often scarce. The main project presently is the implementation of the intersectoral action plan for epilepsy and other neurological disorders, IGAP, which was approved at the World Health Assembly in May 2022, and has a time of 10 years for the duration of the program. It focuses on advocacy, treatment, prevention, research, innovation, and public health awareness, and is meant to implement neurology in all countries of the world.

The WFN puts many efforts in fulfilling its mission: "Fostering quality neurology and brain health worldwide." One example is by organizing the World Brain Day, together with the six regional societies. World Brain Day is an extremely successful recurring event on July 22. This year, World Brain Day focuses on Brain Health and Disability: Leave No One Behind, conveying five important messages: Awareness, Prevention, Advocacy, Education, and Access.

Several WFN Programs focus on education, in particular aimed at residents and early career neurologists. This year, we celebrate the 10-year anniversary of WFN training centers, which provide one-year fellowships but also four-year residency programs. Another great success is the department visit program which enables an exchange of experiences and practices and also creates an opportunity to create an academic network for future cooperation.

At the beginning of his term, President Grisold stated that the WFN will need to take diversity, equity, and inclusion into consideration in its strategy, that the needs of early career neurologists require specific attention and action, and a platform for patient organizations should be installed in the WFN infrastructure. I embrace those initiatives, and I am fully committed to serve the WFN as treasurer to make those initiatives to a success in close collaboration with the trustees and the indispensable colleagues from the Head Office. •

**CANDIDATE STATEMENT FOR TREASURER:  
BARBARA TETTENBORN****Barbara Tettenborn**

**M**y name is Barbara Tettenborn. I am professor of neurology in Switzerland and Germany with both citizenships. I was born in Halle/Saale in East Germany, spent my later childhood and youth in West Berlin, studied medicine in Germany, England, and Ireland, and passed my neurological residency at the University Hospital in Mainz in Germany (Head of Department Prof. H.C. Hopf) followed by a stroke fellowship with Prof. L.R. Caplan in Boston in the United States.

I am a general neurologist with special interests in epilepsy, stroke, sports neurology, and brain health. After more than five years as vice chair of the department of neurology in Mainz, I was elected as head of the department of neurology in St. Gallen, Switzerland, in October 1999, and kept this position until my retirement in March 2023. I am still affiliated with the Johannes Gutenberg University in Mainz as professor of neurology continuing to give lectures and teaching courses on a regular basis. I am a member of the European Academy of Neurology (EAN) as editor-in-chief of e-Learning. Together with a great team from the EAN and the editorial board, we built up the new e-Learning platform in 2021/2022, which was launched at

the EAN annual meeting in Vienna last summer.

Regarding my experience in administrative boards:

- I was member of the board of the Swiss Neurological Society for more than eight years and treasurer of the Swiss Federation of Clinical Neuro-Societies for more than four years until the end of 2022.
- I served as a member of the administrative board at the hospital in St. Gallen for four years.
- I am president of the Swiss League against Epilepsy and president of the organization Women in Neurology (WIN) Switzerland.
- I am vice president of the scientific board of highly specialized medicine in Switzerland. My special research interests are epilepsy in the elderly, seizures due to vascular lesions, new antiepileptic drugs, vertebrobasilar ischemia, gender aspects in neurology, and sports neurology.
- I am author and co-author of numerous publications and editor and co-editor of several textbooks of neurology, including "Paroxysmal Disorders in Neurology" and "Sport as Prevention and Therapy of Neurological and Psychiatric Disorders."

Neurology is not only my profession, but also my first and most favorite hobby, my second hobby being sports, especially triathlon and mountaineering. I like to cooperate and communicate with people and to encourage especially the next generation. Being recently retired from my position as head of department gives me the time and energy to take on new tasks. I have quite a lot of experience in administrative positions and political communication, including the position of treasurer of a large national society for several years.

It would be a great honor for me to serve the World Federation of Neurology as treasurer, and I promise to put all my energy, enthusiasm, time, and effort into this position in order to help to give neurology as much worldwide visibility and impact as possible. •



CANDIDATE STATEMENT FOR ELECTED TRUSTEE:  
LAWRENCE TUCKER

Lawrence Tucker

It is an immense honor to be nominated for the position of WFN trustee.

After completing a laboratory-based, neuroscience PhD in Cambridge as a young doctor in 1993, I returned to train as a neurologist in sub-Saharan Africa where neurologists to general population average one per five million. I now head of neurology at Groote Schuur Hospital and the University of Cape Town's Neuroscience Institute. I am president of the College of Neurologists of South Africa and past president of the Neurological Association of South Africa. I also sit on the boards of various other national, neurological, professional, and academic bodies

I am a general neurologist with an interest in epilepsy, but my passions lie in the advancement of neurological education, training, clinical practice, and advocacy, especially in resource constrained environments. Little surprise, then, that working with the WFN over the past decade has been a privilege and source of great personal fulfilment. I have been a WFN delegate for almost a decade and served on many WFN committees (core education, grants, public awareness and advocacy, RTC, e-Learning, 2023 WCN, and finance). In these and other roles, it has been a pleasure and honor to interact with esteemed WFN colleagues, including four presidents, trustees, and many other office bearers.

I am grateful to the WFN for providing me with opportunities to pursue its mission. For example, using WFN seed sponsorship, our Cape Town group developed an intensive, annual, 6-month, distance learning program for electroencephalography training, which has enrolled well over 1,000 neurology residents and neurologists, predominantly from lower and middle income countries during the past seven years. However, I regard working closely with the WFN and African colleagues to establish the African Academy of Neurology (AFAN) in Dakar (2017), and setting up the Cape Town WFN Regional Training Center (2019) as two particularly significant personal achievements.

Since its inception, I have been treasurer, vice president and, most recently, president-elect of AFAN, which is now well-established and collaborates with the WFN and other international, regional, and national bodies globally to promote neurology in Africa. Among other activities, AFAN runs biennial congresses and, jointly with the WFN, virtual annual e-Learning days and advocacy programmes.

The Cape Town WFN RTC, which I head, is the only Anglophone WFN RTC in the southern hemisphere. It offers career neurology training, as well as clinical fellowships (in stroke, epilepsy, neuroinfection, neuromuscular disorders, and clinical neurophysiology) for neurologists practicing in lower and middle income countries in sub-Saharan Africa.

If elected as trustee, I will continue to work with WFN colleagues toward our organization's goal of quality neurology for all. This will involve strengthening established collaborations with national, regional, and international organizations, including the WHO; expanding the WFN's existing and already successful educational, e-Learning, visiting fellowship and RTC programs; and supporting new, inclusive initiatives between the global north and south to promote the WFN's mission in Africa, South and Central America, Asia, Oceania, and all regions in the world where neurologists and neurological expertise remain scarce. •

CANDIDATE STATEMENT FOR ELECTED TRUSTEE:  
MOHAMMAD WASAY

Mohammad Wasay

I am currently Alicharan Endowed Professor of Neurology at Aga Khan University Karachi, past president of the Pakistan Society of Neurology and Pakistan Stroke Society, president of the Neurology Awareness and Research Foundation and distinguished scholar of COMSTECH (OIC). I have also served as a director of World Stroke Organization (WSO) and am currently serving as fellow of Pakistan Academy of Sciences and Secretary of the Environmental Neurology Speciality Group (ENSG) and member global policy committee for WSO. I was recently elected as fellow of the World Academy of Sciences (TWAS).

I have worked with WFN for more than a decade as an active neurology advocate and researcher from South Asia. I was trained at Palatucci Forum, and then received Advocacy Leader of the Year Award by American Academy of Neurology for my global advocacy contributions. I served as chair of the World Federation of Neurology (WFN) Advocacy Committee for four years. This committee was instrumental in starting and organizing World Brain Day activities and promoting brain health across the globe. We organized many advocacy workshops and teaching courses during the Asian Oceanian Association of Neurology conferences, Asian Pacific

Stroke Conference, and World Congress of Neurology.

I established a network of neurology training and research in Kenya, Tanzania, Afghanistan, and Central Asia. We established the Asian stroke network with more than 20 centers in 10 Asian countries. Currently, I am leading an initiative to establish the OIC Neurology Academy to promote neurological care and training in developing Islamic countries. Recently, I have been appointed as chair, specialty groups committee by the WFN president. As secretary of Environmental Neurology Specialty Group (ENSRG), I have organized many educational and awareness activities related to environment and neurological diseases.

I have trained more than 50 neurologists under my supervision. I have published more than 238 papers in peer-reviewed medical journals with impressive publications metrics (IF: 676; citations=6700, H-index 39 and I10 index 95). I have received many awards, including the Teachers Recognition Award by American Academy of Neurology, Gold Medal by Pakistan Academy of Medical Sciences, Gold Medal by Pakistan Academy of Sciences and Research productivity awards by Pakistan Council of Science and Technology. I have received 29 research and training grants (intramural and extra mural) as PI and co-PI. I have been an invited speaker at more than 130 conferences in 73 countries.

The growing burden of neurological diseases in the world has established WFN as an important stakeholder in global health. WHO has recently approved an intersectoral action plan for promotion of neurological care, training, and advocacy across globe. We plan to promote brain health as a top agenda for WHO and United Nations. There is an inequity in neurology training and care across the globe. South Asia, Central Asia, and Africa should be a center point for our future interventions. As an expert in stroke from south Asia, active role in the World Federation of Neurology and World Stroke Organization, I could be a useful member of this global task force. •



**CANDIDATE STATEMENT FOR ELECTED TRUSTEE:  
PROF. TISSA WIJERATNE****Prof. Tissa Wijeratne**

**W**hat an exciting time to be in the WFN. It is an incredible honor to have been nominated for the trustee position in the upcoming election this year. Brain health is in peril globally. One in three of us has a brain disorder. Every one of us will experience disability (temporary or permanent) during our lifetime. The potential for prevention is enormous. Brain disorders are the leading cause of disability and the second leading cause of death globally. Two-thirds of these occur in low- to middle-income countries. Different regions of high-income countries demonstrate vast disparities in awareness, education, access to care, prevention, and rehabilitation. I have seen this imbalance in care firsthand during my youth in rural Sri Lanka, followed by culturally and linguistically diverse communities representing 166 nations in Western suburbs in Melbourne, Australia.

I believe WFN can build on the successes of the last few decades, capitalize on IGAP, and advocate more for quality neurology and better brain health by improving local engagement and activities.

If elected, I will seek to enhance the inclusiveness and constant collaboration already at our society's heart. We shall

continue to work hard to support movers and shakers in brain health worldwide — not only neurologists, academics, and industry, but also the billions of patients and families experiencing the effects of brain disorders.

Advocacy and supporting local advocates will be a crucial component of my global vision for quality neurology and better brain health. We will continue to assist national societies, health ministers and ministries, aiming to deliver the IGAP for all neurological disorders in all regions during the next decade. Educational programs, grants, symposia, CME, traveling fellowships, accreditation, and postgraduate training programs will all be added to, enhanced or, in some cases, newly developed to help address this need globally. We are already doing a lot, but we can and will do more. Our many activities will continue to bring neurologists worldwide together, ensuring everyone's voice is heard. Committee representation, additional scientific activities, and other advocacy campaigns shall be the tools we use to achieve this goal.

The WFN needs hard-working men and women who can dedicate themselves to improving brain health worldwide. To cohesively solve the issues facing neurologists across the globe, we can listen to, discuss, and assimilate the ideas of many. I will bring these qualities to our leadership group.

As you know, I have already represented the global neurology community in WFN activities for nearly two decades. I am ideally poised to take up the responsibilities of a trustee, as I bring experience from both sides of the world — from rural Sri Lanka to Australia and beyond.

The World Brain Day campaign has already reached out to over a billion people since its genesis in 2014. Yet, there is more ground to cover, but our goals are achievable. With our already talented team, we can work together on this critically important task now.

See more about me on my [website](#). I am on WhatsApp at +61430048730 if you need to clarify anything with me directly. •

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