

WORLD FEDERATION  
OF NEUROLOGY

Education

# Promoting global neurological education and training

Education is conventionally classified into pre-graduate (medical school) education, residency and fellowship training, and continuing medical education.

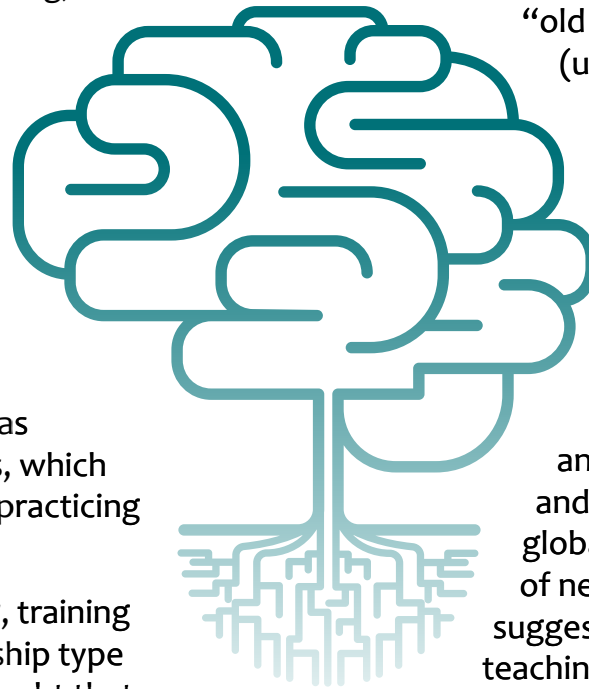
Training in neurology varies in many countries of the world with regard to duration, content, and methods. These differences stem from historic development and cultural background, as well as differences in health systems, which require different profiles for practicing neurologists.

Apart from practical learning, training curricula and the apprenticeship type models prevail. There is no doubt that time and experience count, but with the rapidly expanding developments in neurology, training curricula and teaching concepts have an increasingly shorter half-life.

The knowledge, skills, and core competencies which must be acquired during training need to be maintained lifelong and continuously

updated and improved, and adapted to the specific needs of the population. It is an ongoing process of innovation and renewal.

In addition to the need for trainees and practicing neurologists to accumulate new knowledge at a fast pace, we must invest in mechanisms to investigate and assess which skills and knowledge trainees need to acquire and also mechanisms to replace “old knowledge” with new (unlearning).



The WFN continue to set its sights on promoting and supporting education initiatives such as the expansion of the WFN Teaching Centres, development of education on digital and online platforms, and the development of a global curriculum for training of neurology, aiming for suggestions with regard to teaching and training methods, taking into consideration differences in local needs and resources.

Most important is the vision to increase efforts on public education and involvement of patients and patient groups. Awareness, prevention, understanding, and care for patients with neurological diseases need to be one of our major tasks.

# WFN Education

The WFN Education portfolio currently includes opportunities for medical students, neurology residents and young neurologists.

Its aims are to:

- Work with individuals, institutions and professional organisations
- Organise the World Congress of Neurology (WCN)
- Organise international teaching courses
- Endorsement of WFN Teaching Centres
- Neurological Department Visits
- Education grant monitoring
- Junior Travelling Fellowships
- Joint AAN-WFN Continuum Programme
- Regional programs worldwide
- JNS and eNS journal publications
- World Brain Day
- World Neurology

## WFN Education Committee

Education methodology is constantly under review and differs substantially throughout the world. Though partly a function of those delivering education and of those being educated, there is, of course, much more to education than those variables alone.

The WFN Education Committee attempts to meet many of these diverse needs. Its strength is a function of the breadth of ideas defining our infrastructure, and the coalitions we form, to facilitate development and spreading of our activities.

In order to underpin WFN's reputation for fairness, transparency and quality is essential, the committee have set about defining standard operating procedures (SOPs) in:

- Teaching Centres
- WCN Teaching Courses
- Sub-specialty Endorsement
- Department Visits
- Education Grant Monitoring
- Junior Travelling Fellowships

# WFN Teaching Courses

The WFN teaching course committee assists the local organising teaching course committee to create a programme of teaching courses suitable for the biennial World Congress in Neurology.

The teaching courses, including many free-to-access and hands-on workshops, offer trainee to advanced level courses as well as CME-CPD Accreditation. The spectrum of topics range from:

- Advocacy
- Autoimmune neurological disorders
- Child neurology
- CNS infections and tropical neurology
- Coma
- Dementia
- EMG and neurophysiology
- Epilepsy
- Headache
- Motor Neuron Disease
- Movement disorders
- Multiple Sclerosis and other inflammatory disorders
- Myopathy
- Neuro-critical care
- Neuro-oncology
- Neuro-ophthalmology
- Neuro-otology
- Neuroimaging and Neurointervention
- Neurology and internal medicine
- Neurorehabilitation
- Neurosonology
- Peripheral neuropathy
- Rare cases in clinical practice
- Sleep disorders
- Stroke

## International teaching courses

The WFN participates jointly with the European Academy of Neurology (EAN) and the American Academy of Neurology (AAN), in yearly teaching courses in Africa. Topics are chosen by the participants and the distribution of knowledge as well as the enthusiasm is enormous.

## Videos and e-Learning

Video conferences are presently launched on the WFN website and it is expected that video conferences on cases or diseases held between several departments will provide a useful academic support for training. Increasingly, video-type seminars will be used for educational purposes.

# AAN-WFN Continuum<sup>®</sup> Education Programme

Published since 1993, Continuum: Lifelong Learning in Neurology<sup>®</sup> is the official continuing medical education (CME) journal of the American Academy of Neurology (AAN).

The AAN, along with its publisher, Wolters Kluwer, generously donate print issues and online access to Continuum<sup>®</sup> for neurology education in countries with limited resources. This highly successful educational program is made available to societies in 45 countries, for the use of Continuum user groups, through a collaboration of the AAN and WFN.

It is an enduring reference and source of education to neurology professionals in World Bank classified low- and low-middle income countries in collaboration with the WFN.

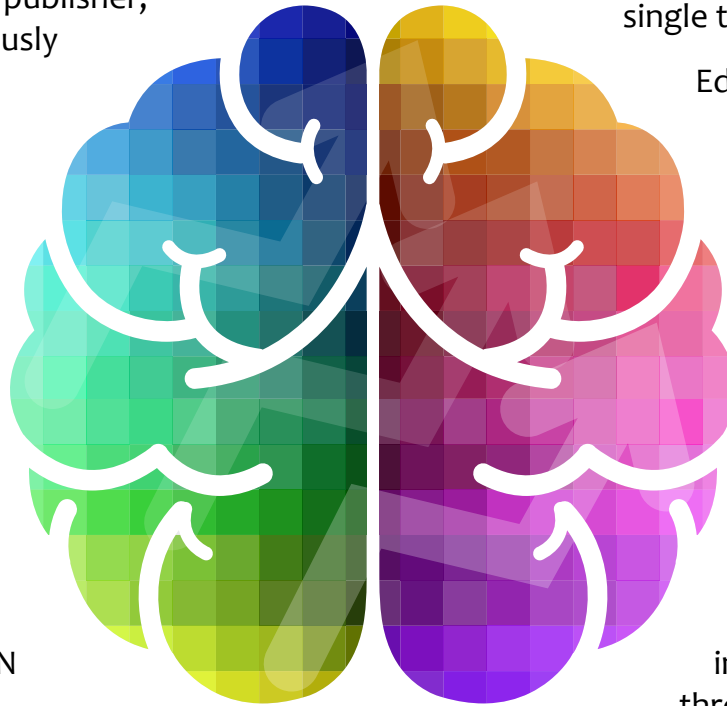
Through the AAN-WFN collaboration, global neurology teams have access to comprehensive clinical reviews of major

neurologic topics, and learn about the latest treatments and techniques to enhance the management of patients with neurologic disease. Each bimonthly issue features the latest clinical information related to a single topic area.

Education coordinators, who are appointed by their local neurologic societies, are responsible for the organization of the program in their countries. Coordinator-led discussion groups give participants an opportunity to engage with their peers and reinforce information learned through Continuum to enhance their clinical practices.

The progress of these programs is monitored by the WFN through participant evaluations, and all programs are expected to submit these evaluations in order to continue participating in the program.

The WFN provides certification upon completion of courses.



# WFN Teaching Centres

The WFN Teaching Centres fulfill the mission to train neurologists in local regions. The idea is to train neurologists locally with high standards, and also acknowledge the high standard of the training centre. The concept of the WFN Teaching Centres as an important tool in the development of neurology.

Neurologic education not only requires focused activities, but that neurological educational content and development need constant input and support. The WFN Teaching Centres allow trainees to participate in the academic world, see neurology practiced in a qualified and highly ranked training institution, and not only deliver the knowledge, skills and competencies required for neurologic practice, but also extend the spirit of WFN neurology to countries in need.

The development of teaching centres was successfully introduced with the first centre in Rabat, Morocco in 2013. Today, the WFN has successfully established teaching centres in Africa - Rabat, Cairo, and Dakar - and offers both “full training” and fellowship opportunities, which include electrophysiology and epileptology. In the Americas, several neurological training programs in Mexico were visited by the WFN in 2016 and received the status of WFN Teaching Centres.



**WFN delegation and local faculty and leadership visit a lecture hall in Mohamed V. Souissi University, Rabat.**



**WFN delegation meeting with neurology faculty and residents during a site visit to Cheikh Anta Diop University in Dakar, Senegal. This is the third WFN Teaching Center in Africa.**



**Neurology leadership from Cairo University lead WFN site visitors on tour of a hospital ward.**



**Neurology residents at the University of Dakar in a feedback session with WFN site visitors.**

Trainees are supported by the WFN in Fellowship and training programs at these teaching centres. The applications for these training positions are announced via the WFN website and media. The selection process is carried out through a committee consisting of members of the WFN education committee, the local university, and the regional society.

A further potential development could be regular visits to the teaching centres from an international professor, who would give lectures, and make rounds in the department for a short time (e.g, a week). This would also help the WFN to identify the needs of the teaching centres more clearly.

The concept of the WFN Teaching Centres is expanding. Recently Capetown, South Africa, has achieved the status of a WFN Teaching Centre.

At present, the WFN Teaching Centre activities are focused on the training of Africans and Central and South Americans, but we look forward to future applications from potential teaching centres from all over the world. The WFN is aware that a teaching centre should be available in Asia, which, while having very highly developed and scientifically active countries, still has several countries with significant needs with regard to neurology training.

# Becoming a WFN Teaching Centre

WFN Teaching Centres are recognised for their commitment and track record in neurology residency and subspecialty training, experienced teaching faculty, and commitment to both inpatient and outpatient neurology.

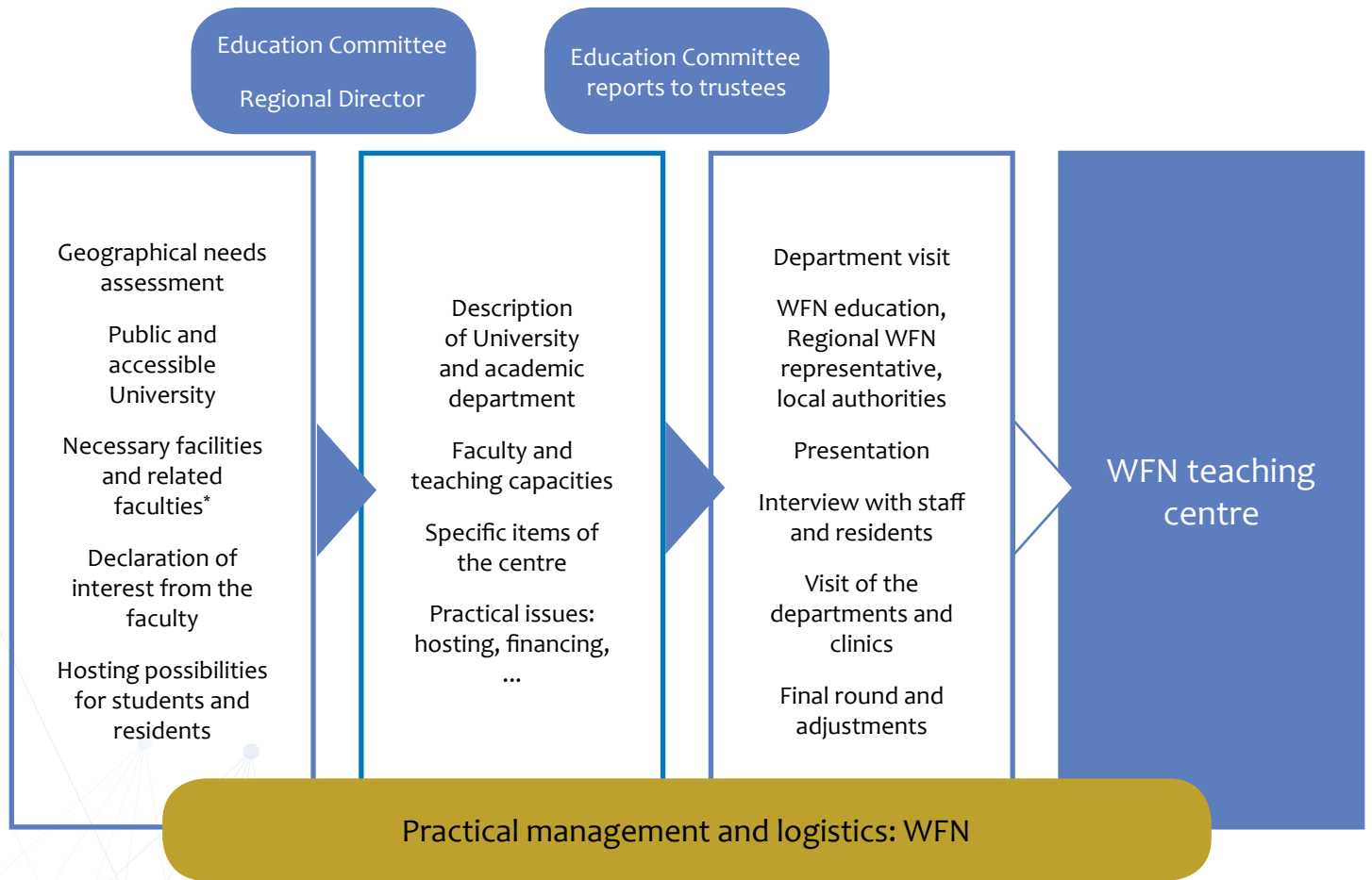
To qualify, centres must undergo a process of evaluation, a site visit by the WFN education committee, and re-evaluation after four years. The centres also need to be embedded in a publicly accessible university, along with facilities and services that include internal medicine, neuroradiology, neurosurgery, neuropathology, and rehabilitation.

Once an institution is selected as a WFN Teaching Centre, the final discussion involves the costs for each resident. The WFN finances travel, living expenses, and any tuition fee (if there is one). In addition, local insurance for health, accidents, and liability need to be covered. The training duration is one year for a subspecialty fellowship such as clinical neurophysiology or epilepsy. Another possibility is complete neurology residency training, up to 3 to 4 years, depending on the local training scheme.

The WFN organises the administration and financing of the teaching centres, which includes the entire cycle from the review of the centre's application to the site visit, joint administration with the regional centre, and evaluation process.



# WFN Teaching Centre - Accreditation Process



\* **Multidisciplinary and multi-professional departments and institutes as radiology (neuroradiology), internal medicine, neurosurgery, neuropathology, pathology and microbiology, genetics, and also rehabilitation units**

Image: Teaching centers of the World Federation of Neurology – A concept to provide training resources from within, Journal of the Neurological Sciences , Volume 379 , 25 - 28, DOI: <https://doi.org/10.1016/j.jns.2017.05.003>

# Neurological Department Visits

WFN Department Visit Programmes give the opportunity to young neurologists from Africa or Central and South America to visit the neurological departments of another institution outside of their home country for 4 to 6 weeks.

The department visits are made possible through cooperation between the WFN and national neurological societies and help to cultivate young neurologists' experience of national neurological systems in an international environment, meeting new colleagues, and fostering future cooperation between the countries, universities, hospitals and departments.

During the visits, young neurologists study the procedures, techniques, and observe the neurologic work at a major neurological centre.

Originally started in 2012 for African countries, with department visits in Turkey, organised with the Turkish Neurological Society (TNS), the programme has expanded to Austria, Germany, Norway, and Italy. In 2017, North America through the Canadian Neurological Society introduced a department program dedicated to countries in South America.

Both the participants and the sponsors have been enthusiastic about this initiative, which not only introduces the participants to recent developments and up-to-date procedures, but also introduces new insights into other medical and social systems.



# Regional Teaching Courses

The needs for education differ worldwide, and they are not limited to live events and enduring materials. Courses with nurses, paramedical professionals and other health groups can be necessary, as well as small standalone meetings. Some of these meetings have been funded by the WFN with grants.

A good example of a continuing joint activity by the EAN and WFN is to hold teaching/training courses in Sub-Saharan Africa each year. In 2013 the course took place in Dakar, Senegal; Lusaka, Zambia (2014); Khartoum, Sudan (2015); Maputo, Mozambique (2016); and Ouagadougou, Burkina Faso (2017). The 10th Regional Teaching Course will take place in Antananarivo, Madagascar, in October 2018.

These EAN-WFN regional teaching courses have a lean teaching staff of 10-15 persons, and attract 70-80 trainees from Africa to offer scientifically valuable and highly interactive courses. This education of trainees and young neurologists is important, as they will act as multipliers for the future development of neurology in Africa.

## HELP US TO HELP YOU

Are you seeking recognition of your teaching centre, department or sub-specialty course?

Are you interested in applying for a Junior Travelling Fellowship or Education Grants-in-Aid?

Would you like to participate in WFN teaching courses?

The WFN is always interested to hear from specialist neurologists who can offer their expertise and time in WFN education programmes.

# Educational Grants-In-Aid

The WFN has been offering grants to fund low cost, high impact educational and outcomes research projects. International cooperation is encouraged with a priority on lower-middle income\* countries.

The grants provide young neurologists - less than 10 years from graduating in Neurology and from WFN Member Societies - with the opportunity and funds to undertake a piece of original research. The research would result in both a publication for the author and provide data with which to launch a larger project or direct local resources to areas of need.

The grants-in-aid provide seed funding for two years to projects in the areas of interest below:

- Education
- Improvement of services\* (regional or national)
- Regional collaboration
- Scientific projects such as the collection of data to test a hypothesis.

\* Projects to provide routine health care and ongoing research proposals are not eligible.

## Example past grants

2017	<b>Establishing the Burden of Atrial Fibrillation (AF) in Stroke and Transient Ischemic Attack (TIA) Patients in Malawi</b> <i>Dr. Laura Benjamin</i>
2016	<b>Research on Assessments of Vitamin B12 and Evaluation of Neurological Symptoms in Zambia (RAVENS)</b> <i>Dr. Michelle Kvalsund</i>
2015	<b>Establishing the Headache Services in the City of Bangalore, South India</b> <i>Dr. Girish Baburao Kulkarni</i>
2014	<b>Production of the Primary Care Version of Neurological Disorders for ICD-11</b> <i>Dr. Donna Bergen</i>

## Since 2011, WFN has supported 43 projects worldwide

2017

3 projects in Morocco, Nepal and Malawi

2016

4 projects in India, South American region, Zambia

2015

8 projects in India, Senegal, Cambodia, Laos, Morocco, Malawi, Kazakhstan and 1 regional grant.

2014

10 projects in India, Morocco, Sri Lanka, Sudan, Turkey, Uganda, USA and 2 regional grants (Zambia/Tanzania, South Asia/Sub-Saharan Africa/Central and South America)

2013

11 projects in Canada, Nigeria, South Africa, Spain, Tanzania and USA.

2012

10 projects in Africa, Austria, Canada, Honduras, UK and USA.

2011

10 projects in Japan, Pakistan, South Africa, UK, USA and Zambia.

## Co-sponsorship

The WFN encourages 'co-sponsored' grants by the WFN and a partner organisation (PO).

The PO can be a scientific society (e.g. ILAE, MDS etc.), a regional society (EAN, AOAN etc.) or a national society. A co-sponsorship agreement is established to define the role of the individual partners in this project, the shared costs, responsibilities, and reporting by the WFN and the PO.

The WFN is also eager to share and participate in grants with other scientific societies such as the International League Against Epilepsy, the World Stroke Organization, and the Movement Disorder Society.

The grants are available once a year and announced on the WFN website.

# Scientific Journals

The WFN Journals publish material from studies, reviews, and cases, and has a large international participation, providing a medium for the prompt publication of original articles in neurology and neuroscience from around the world.

Special emphasis is placed on articles that:

- provide guidance to clinicians around the world (Best Practices, Global Neurology);
- report cutting-edge science related to neurology (Basic and Translational Sciences);
- educate readers about relevant and practical clinical outcomes in neurology (Outcomes Research); and
- summarise or editorialise the current state of the literature (Reviews, Commentaries, and Editorials).

Are you interested in submitting a manuscript, review article, editorial, letter to the Editor, or brief report?

[www.jns-journal.com](http://www.jns-journal.com)

[www.ens-journal.com](http://www.ens-journal.com)

JNS and eNS review and publish original research papers, short communications, reviews, book reviews, letters to the Editor, opinions and editorials.

Topics considered will be from neurology-related fields that are of interest to practicing physicians around the world.

## Journal of the Neurological Sciences (JNS)

The Journal of the Neurological Sciences (JNS) is the official Journal of the World Federation of Neurology.

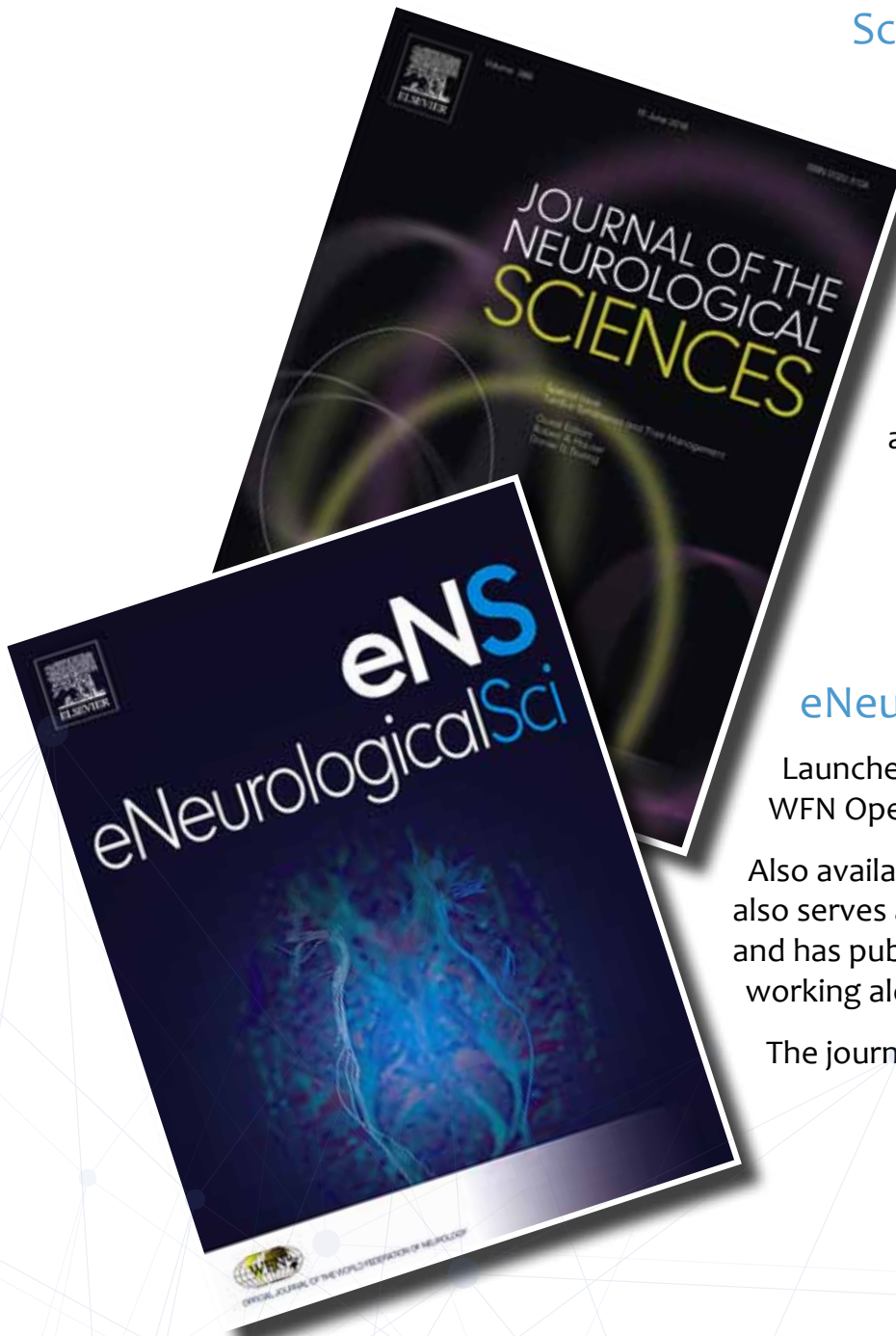
Two editor-selected CME articles appear on the website each month and can be downloaded free. The JNS is a continued success and is edited by Prof. John England.

## eNeurologicalSci (eNS)

Launched in 2015, eNeurologicalSci is the WFN Open Access scientific journal.

Also available through PubMed, the journal also serves as a platform for articles and cases, and has published several local features, working alongside the JNS.

The journal is edited by Prof. Bruce Ovbiagele.



# World Congress of Neurology

The biennial World Congress of Neurology (WCN) brings together leading neurologists and other scientists, public health experts, and policy-makers to translate recent momentous scientific advances into action that will address means to end the epidemic of neurologic disorders, within the current context of significant global economic challenges.

In 2017, the XXIII WCN was held in Kyoto, and was a huge success. The congress was the largest so far, with 8,634 participants from 121 countries. The next XXIV WCN, in 2019, will take place in Dubai, followed by the XXV WCN to be held in Rome, in 2021.

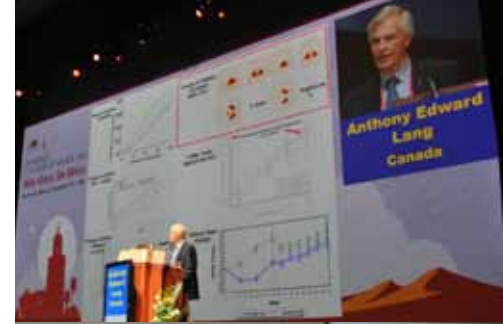
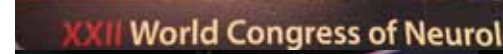
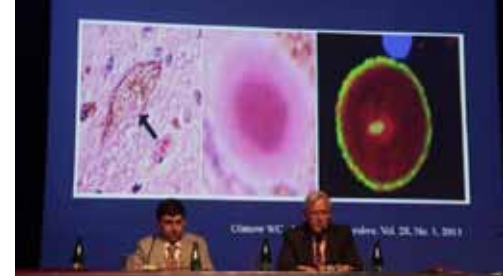
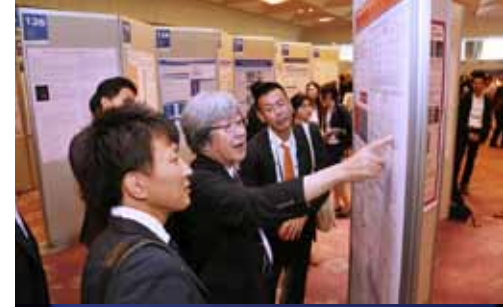
## Patient Day

The WFN has introduced the concept of a Patient Day at the World Congress of Neurology, which is a day and a session devoted to patients, caregivers, and health groups for the purpose of spreading news and interest of the Congress. This was successful in Vienna, Santiago, and Kyoto, and will need to be continued at further congresses. Common diseases such as stroke, epilepsy, and movement disorders are usually selected, and speakers from the Congress give talks in an understandable format and native language.

## WCN Congress Bursaries

The WFN offers Congress bursaries devoted to younger neurologists, with preference to applicants from low- and middle-income countries, and include a travel grant and free attendance to the Congress.

The number of grantees allowed depends on the Congress budget. Over the last several years, 55 bursaries were awarded for Marrakech, 120 for Vienna, 30 for Santiago, and 200 were offered for Kyoto. In part, these are also supported by the professional conference organiser, Kenes.







## WFN and IFMSA

The International Federation of Medical Students' Associations (IFMSA) is a non-governmental organisation representing associations of medical students. It connects and engages with a network of 1.3 million medical students in 127 countries around the globe, organising over 13,000 clinical and research exchange programs for students to explore innovations in medicine, healthcare systems and healthcare delivery in other settings.

Each year, WFN cooperates with regard to students' medical curricula concerning neurology, and provides free entrance for two students at the WCN.

In addition, the WFN offers potential support to the IFMSA Professional Exchange by intermittent review and approval of the Neurologic checklist, as basic requirements for a one-month clerkship in a department of neurology.



## Junior Travelling Fellowships

The Junior Travelling fellowships (JTFs) are awarded to young neurologists to support them to attend approved meetings and international congresses in addition to the WCN.

Applications are accepted worldwide from countries classified by the World Bank as Low or Lower Middle Income countries.

Applicants are expected to participate actively in the meeting (e.g. presentation, poster) that they attend and the submission of an abstract is encouraged. A final report is requested, which might be used for publication in World Neurology. In the last years, an average of 30 JTFs have been granted each year.

Applications are announced on the WFN website and exclusively submitted using the WFN JTF online application form.



# WFN and the Public

One of our main aims is the promotion of neurology, which is much wider than any training and education we do specifically for the specialty. Individual health groups, committed non-government organizations (NGOs), and patients need to be aware of neurologic symptoms, diseases, and emergencies, and be encouraged to seek help for neurological conditions for themselves or others.

The aim of public education is to spread information on neurology, raise awareness and understanding, and improve the fate of patients with neurological diseases. All in all, this could be called advocacy work for neurology. Indeed, this is the greatest gap we need to fill. At present, a good example of educational aspects are the World Brain Days, which are topic-focused and try to improve awareness with regard to specific neurological diseases.



# World Brain Day

A major initiative from the WFN is World Brain Day (WBD) which had its origins at the WCN 2013 in Vienna.

The day commemorates the founding day of the WFN and is July 22.

Members are encouraged to celebrate this World Brain Day and receive educational matter, suggestions for press mailings, and printout material.

## World Brain Day Themes



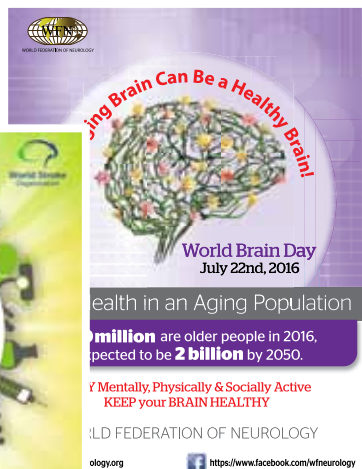
2018

Clean Air for Brain Health



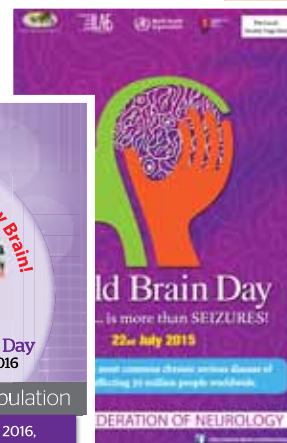
2017

Stroke is a brain attack – prevent it and treat it



2016

Brain Health and the Ageing Population



2015

Epilepsy



2014

Our Brain, Our Future

WBD



# GET IN TOUCH



WORLD FEDERATION  
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Find out more about what we do and how you can get involved, at:

[www.wfneurology.org/education](http://www.wfneurology.org/education)

or e-mail us:

[education@wfneurology.org](mailto:education@wfneurology.org)