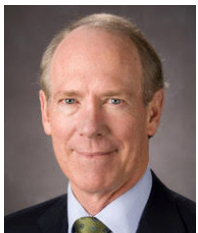


# WORLD NEUROLOGY

THE OFFICIAL NEWSLETTER OF THE WORLD FEDERATION OF NEUROLOGY

## PRESIDENT'S COLUMN

### WFN Takes Stock and Moves Forward



WILLIAM  
CARROLL, MD

This, my second column, is to inform you of some important steps taken by the new administration and the rationale for these. They comprise the essence of the strategy meeting

held Feb. 12-13 in London.

Such strategy meetings have been held from time to time previously. But due to the value of this strategy meeting, the trustees have decided it should become a regular biennial event for this administration. The World Federation of Neurology (WFN) was most fortunate that this meeting was attended by all of its elected representatives and the presidents or the representatives of the regional neurological organizations affiliated with the WFN.

These included Prof. Yomi Ogan,

president of the newly formed African Academy of Neurology; Prof. Riadh Gouider, representing Prof. Chokri Mhiri, president of the Pan Arab Union of Neurological Societies; Prof. Marco Medina, president of the Pan American Federation of Neurological Societies; and Prof. Boon Soek Jeon, president of the Asian Oceanian Association of Neurology. We were also especially honored to have Prof. Ralph Sacco, president of the American Academy of Neurology, and Prof. Franz Fazekas, president-elect of the European Academy of Neurology and representing Prof. Gunther Deuschl.

Over two days, all WFN activities were discussed, evaluated, and had action plans developed to proceed for each. All such plans were carefully scrutinized by Prof. Richard Stark, WFN treasurer. While the WFN activities have been largely centered on education in neurology, the WFN must ensure that such programs are not only properly established with oversight

and clear communication channels but they must be financially sustainable and have clear and measurable outcomes. Through the careful diligence, foresight, and enterprise of the strategy meeting attendees, we have largely attained this goal. It was with much pleasure that I was able to observe enthusiastic contribution of all participants and a most successful outcome.

Here are the items that I believe to be of most interest to the membership.

#### Education

**Regional Training Centers.** There are five centers that are presently operating; four in Africa and one in Mexico. A proposition was received from Bangalore for which the WFN was most grateful.

The strategy meeting participants considered that the Asian proposition was different than that developed for Africa and required careful review by the Education Committee to clearly define the

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July 22 serves as World Brain Day 2018. Learn more about the initiative and the need for clean air.

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Procession of guests at the Welcome Ceremony.

## SRI LANKAN NEUROLOGISTS

### Annual Academic Sessions Update

BY PROF. UDAYA K. RANAWAKA

The Association of Sri Lankan Neurologists (ASN) held its 11th Annual Academic Sessions in November 2017 at the Cinnamon Grand, Colombo, under the theme of Neurology for Tomorrow. Prof. Raad Shakir, president of the World Federation of Neurology (WFN), was the chief guest at the Welcome Ceremony, and Prof. Man Mohan Mehndiratta, president of the Asia Pacific Stroke Organization (APSO), was the guest of honor. The Association of British Neurologists (ABN) was repre-

sented by an official ABN delegation.

Prof. Shakir delivered the opening plenary on global neurology challenges. The JB Peiris Oration was delivered by A/Prof. Udaya Seneviratne from Monash University in Melbourne, Australia. The overseas faculty consisted of 19 speakers from Australia, India, Pakistan, Singapore, the United Kingdom, and the United States, and was complemented by the local faculty. The academic program spanned three days and had a strong emphasis on new advances in neurology.

Two half-day symposia were held on

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FROM THE EDITORS

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

We are pleased to welcome you to the March-April 2018 issue of World Neurology, the official publication of the World Federation of Neurology (WFN). In this issue, a number of WFN initiatives are discussed, beginning with the Presidents' Column where WFN President William Carroll discusses the new steps taken by the new administration of the WFN as outlined at the recent strategy meeting that took place in London.

In this issue, we are also pleased to announce the seventh year that the WFN is offering educational grants to sponsor high impact educational and outcome-based research projects. Interested young investigators should waste no time as the deadline for applications is quickly approaching. Another important announcement in this issue is the invitation for bids from national member societies in the Americas to host the World Congress of Neurology (WCN) in 2023.

The theme for this year's World Brain Day (July 22, 2018) campaign is also announced in this issue and all neurological societies are encouraged to participate.

John D. England, the editor-in-chief of the *Journal of the Neurological Sciences*, the official journal of the WFN, announces a special issue devoted to tardive dyskinesia, edited by Dr. Daniel Truong and Dr. Robert Hauser. It is available free online for all readers through 2018.

Dr. Udaya K. Ranawaka reports on the 11<sup>th</sup> Annual Academic Sessions of the Association of Sri Lankan Neurologists that was held last November. Professor



STEVEN L. LEWIS, MD



WALTER STRUHAL, MD

Jan Kuks announces the next examination of the European Board of Neurology that will be taking place on June 15, 2018, at the European Academy of Neurology Congress in Lisbon. Martin Kaddumukasa, MD, reports on his eye-opening visit to St. Josef Hospital in Cochum (University Clinic of Ruhr University) in the department visit program sponsored by the German Neurological Society and the WFN.

In this issue's history column, Douglas Lanska reports on his interview with Nobel laureate Stanley Prusiner on the origin of the term *prion*, an article that should be of both historical and medical interest to all readers. Eduardo Wilson provides a biography of Victor Soriano, who is honored by the Soriano lectures held every two years at the World Congress of Neurology. Finally, Nadir Bharucha provides a touching obituary of Professor Eddie Phiroz Bharucha, a pioneer of neurology in India, who passed away in December and whose name will also live on in an endowed lectureship at the World Congresses of Neurology.

We hope you enjoy this issue, and we invite articles from neurologists around the globe to keep us all up to date about news of interest to all neurologists. •

**World Congress of Neurology (WCN).**

The Scientific Program Committee and Teaching Course Committee for the 2019 WCN, to be held in Dubai, will meet during the upcoming AAN meeting in Los Angeles. Under Prof. Chris Kennard and Prof. Steven Lewis, the program development is ahead of schedule.

We all remember the wonderful 2015 WCN held in Santiago, Chile. Notices have gone out to member national societies asking for nominations for the 2023 venue. In this year, the WCN is again scheduled to be hosted in the Americas. This WFN region encompasses North America (Canada and the U.S.), Central America, and South America.

**Junior Traveling Fellowships.**

Applications closed after the receipt of 82 requests for one of 30 JTFs, each valued at GBP1,000. Applicants will be advised of the results shortly.

**Grants.** It was determined at the strategy meeting that these should be more focused and targeted with two



Prof. Udaya Ranawaka, ASN president, delivers the Welcome Address.

**SRI LANKA**

*continued from page 1*

movement disorders and stroke. The other topics covered included epilepsy, demyelinating diseases, neurological infections, CNS vasculitis, neurology and sleep, neurology of autonomic dysfunction, eye movement disorders, myasthenia gravis, neuroplasticity, and neurorehabilitation.

Two post-lunch quizzes tested the neurology knowledge of participants and provided light entertainment in between the intense academic deliberations. A guided poster tour was introduced at the Annual Sessions, and provided young researchers a good opportunity to showcase their research. A parallel workshop on EEG was conducted for EEG technologists.

The Association of Sri Lankan Neurologists is still a fledgling organization, being only 10 years old, but remains strongly committed to the promotion of continuous education. It has held successful annual meetings every year over the last 10 years. Its membership is scattered rather thinly across the country, with only 41 neurologists serving 21 million people, with less than one neurologist per 500,000 population. During the calendar

year of 2017, academic activities were conducted in eight of the nine provinces of the country, with a view to promoting professional development among those serving in the peripheries. In addition, monthly updates were held in the city of Colombo, primarily aimed at the postgraduate trainees in internal medicine and neurology.

The Annual Academic Sessions are the pinnacle of the academic activities of the ASN. The 2017 sessions went a long way toward meeting the key objectives of the ASN, of promoting continued education and training, fostering research, and facilitating networking and exchange of ideas. The social programs (the Welcome Ceremony, President's Dinner, and the ASN Banquet) provided time for networking, camaraderie, as well as building and strengthening friendships. We hope these will lead to closer collaborations between the ASN and its friends across the globe, and ultimately improvements in neurological care in Sri Lanka. •

Prof. Udaya K. Ranawaka, MD, FRCP, FCCP, FAAN, FAHA, is professor of neurology at the Faculty of Medicine, University of Kelaniya, and was the president of the Association of Sri Lankan Neurologists in 2017.

**PRESIDENT**

*continued from page 1*

goals, location, collaborative organization, and the funding and outcome measures before proceeding. It is hoped this review will be completed quickly.

**Regional Teaching Courses.** These are predominantly held in Africa at the present time through a collaboration of the EAN, WFN, and specialty groups, such as the WSO, the MDS, and this year ECTRIMS. One proposition that was considered to have some merit was the linking of every second regional teaching course in Africa with the African Academy of Neurology.

The African Academy of Neurology is of fundamental importance, and this nascent but most essential development may require its organizational structure to be nurtured for the time being. Having a formal relationship in place facilitates its growth.

**New Committee Chairs**

- Nominating Committee
- Constitution and Bylaws Committee
- Finance Committee
- Regional Liaison Committee
- Publications Committee
- Public Awareness and Advocacy Committee
- Education Committee
- Standards and Evaluations Committee
- Membership Committee
- Applied Research Committee
- Congress Committee
- E-Communications Committee

- Prof. Hidehiro Mizusawa
- Prof. Phil Smith
- Prof. Bo Norrvig
- Prof. Ralph Sacco
- Prof. John England
- Prof. Tissa Wijeratne
- Prof. Steven Lewis
- Prof. Jan Kuks
- Prof. Morris Freedman
- Prof. Albert Ludolph
- Prof. Ryuji Kaji
- Prof. Walter Struhal

principal aims. First, to provide young neurologists with the opportunity and funds to undertake a piece of original research. Second, that 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. Six grants of up to U.S. (\$) 25,000 to a maximum total of U.S. (\$) 100,000 will be available this year. For more details, please refer to the grant announcement on page 5 of this issue of World Neurology.

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HISTORY

# Stanley Prusiner on the Origin of the Term *Prion*

BY DOUGLAS J. LANSKA, MD, MS, MSPH, FAAN

In an oral history interview for the American Academy of Neurology conducted April 27, 2017, at the Boston Convention Center, I spoke with Nobel laureate Stanley B. Prusiner, the only living neurologist to have won a Nobel Prize (Lanska and Klaffke, 2017, Lanska, 2017).

Prusiner was the sole recipient of the Nobel Prize in Physiology or Medicine in 1997 “for his discovery of Prions — a new biological principle of infection.” Here is an excerpt from that interview concerning how Prusiner created the term prion, which he introduced in a landmark paper in *Science* in 1982 (Prusiner 1982).

**Prusiner:** [In the fall of 1980,] I was with a friend of mine who was a professor at Harvard. This was [American chemist] Frank Westheimer, PhD (1912-2007). [He was receiving] an honorary professorship in the pharmacy school. He came to see me and [we] talked. I went over everything I was doing. He said, “Stan, this is really fantastic. You’ve discovered something really new, and you need to give it a name, and you need to give it a good name. You need to think about this name for a long time. A lot of work needs to go into this. Because, if you give it a crappy name, someone else will come along and give it another name, and they will end up with the lion’s share of the credit, but you will have done the work, and that’s not a good idea. This is what you’ve done with your life, and you need to make sure that you don’t screw it up. So you need to spend a lot of time on this.”

**Lanska:** *Could you talk about how you came up with the term?*

**Prusiner:** OK. I’m happy to recite this... [I]t’s the spring of 1981, and I need to finish this paper [Prusiner 1982]. The only



thing holding it up is the word, and I’m trying to figure out a word.

So I go through Latin dictionaries, because I knew — I still know — a lot of Latin. I’m not a scholar in it; that’s for sure. I don’t know any Greek. I don’t really know how to come up with a word. I want a word like exon. I thought that’s a great word. Where do I find somebody who can do that? I kept thinking of somebody at Berkeley [who] can help me, but then I didn’t even know who to talk to. I thought this is going to be just frivolous to go to Berkeley and try to find some professor of words who will help me.

Then, I said, “OK, I’ve got to come up with some rational approach to a word, just taking a bunch of letters, and where are these letters going to come from? Well, they’re going to come from words that have something to do ... [with the responsible agent].” So I wrote out [the words] protein, infectious, and agent. I started with that. I got *piaf* out of that, because I wanted protein, and I wanted infectious, and then I wanted agent.

**Lanska:** *You just kind of threw on an extra “f” for fun?*

**Prusiner:** For infectious.

**Lanska:** *Protein, infectious, agent...p-i-a. You added an “f.”*

**Prusiner:** So you just underline the “f” in infectious, right? That’s where the letters all come from.

I always liked [French cabaret singer and songwriter] Édith Piaf [1915-1963; nee Édith Giovanna Gassion; she adopted her stage name, Piaf, from her nickname, which is French slang for sparrow]. Now, “sparrow” is announcing all of this, right? [Prusiner laughs.]

I then sent it to a friend of mine named Sidney Udenfriend (1918-2001), an American biochemist and pharmacologist who was running the Roche Institute in Molecular Biology. This was a fabulous place that was created by Roche to do basic science that would create drugs. Eventually, they shut it all down, because they never got one drug out of spending hundreds of millions of dollars over 20 years. He reads the paper, and he says, “Stan, this is an American discovery, not a French discovery. You don’t need a French word. You need another word. Go find another word.” So that was the end of *piaf*.

Short. You need something short. You need to have two vowels. Great words are words like virus. That’s a fabulous word. And quark [pronounced kwork] is a great word. Those are words that I think are just A+.

So I then throw out agent, because I don’t need agent. That’s totally non-specific, and I’m left with protein and infectious. Whenever I would go to a lecture, I would write out infectious across the top and protein on the side, or vice versa. Then, I’d just pick letters randomly. I didn’t get anywhere until one day. I’d probably stumbled across the same word 10 times and never picking it

see PRUSINER, page 4





## You've discovered something really new, and you need to give it a name, and you need to give it a good name.

Frank Westheimer

### PRUSINER

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out: p-r-i-o-n. I read it, and I say, "This is prion." I could have pronounced it pry-on, but I pronounced it pree-on. Then, I said, "I'm going to write p-r-e-e-o-n as the pronunciation in parentheses."

I leave this defunct faculty club that was now a sandwich shop across the street, and I walk upstairs. I look in my Webster's Unabridged Dictionary, because there are no computers. I find a bird with a sawtooth beak.

**Lanska:** A whalebird.

**Prusiner:** Right. And I said, "Well, you know, this really doesn't matter. Lots

of words have more than one meaning. There'll be two pronunciations. If I'm right, this will be the No.1 definition, and the bird will continue to live on in oblivion, because no one is interested in prions [pry-ons]. I've never heard of a prion [pry-on]. It's a petrel that lives in the south, the Southern Ocean [Antarctic Ocean]."

It's not worth worrying about the bird. I said, "There'll be a little crap from some of my competitors who will say, 'That's a bird.'" But I said, "It doesn't matter." So that's where it came from. It had ion, so it looked like it was something highly basic. An ion really gets right down to the essence. And it was short. It had two syllables. It was going to be OK.

## Quark: What's in a Name?

**P**rusiner is certainly not alone in devoting considerable energy to devising a catchy word for a newly described entity in science or medicine, and indeed he developed exemplars based on prior scientific neologisms. Later, in the public interview, Prusiner recalled:

My model words [for prion] were virus and quark [pronounced correctly as qwork]. I thought Murray Gell-Mann was terrific with that, stealing that from Lewis Carroll [sic]. So I looked through Alice in Wonderland for another one, but I didn't find one. (Lanska, 2017)

American physicist Murray Gell-Mann (1929-) received the 1969 Nobel Prize in physics "for his contributions and discoveries concerning the classification of elementary particles and their interactions."

Gell-Mann coined the term quark (which he pronounced kwork) in 1963 to refer to the fundamental constituents of the nucleon (i.e., either a proton or a neutron, considered in its role as a component of an atomic nucleus) (Gell-Mann, 1964, 1995). Despite Prusiner's recollection to the contrary, the term quark did not originate in the fantasy novel Alice's Adventures in Wonderland (1865), written by English mathematician Charles Lutwidge Dodgson (1832-1898) under the pseudonym Lewis Carroll. Instead, Gell-Mann derived the non-phonetic spelling from a whimsical poem in Finnegans Wake (1939) by Irish writer James Joyce (1882-1941).

According to Gell-Mann's account (1995):

In 1963, when I assigned the name "quark" to the fundamental constituents of the nucleon, I had the sound first, without the spelling, which could have been "kwork." Then, in one of my occasional perusals of Finnegans Wake, I came across the word "quark" in the phrase, "Three quarks for Muster Mark." Since "quark" (meaning, for one thing, the cry of the gull) was clearly intended to rhyme with "Mark," as well as "bark" and other such words, I had to find an excuse to pronounce it as "kwork." But the book represents the dream of a publican named Humphrey Chimpenden Earwicker. Words in the text are typically drawn from several sources at once, like the "portmanteau" words in Through the Looking-Glass [and What Alice Found There (1871), the novel by Lewis Carroll]. From time to time, phrases occur in the book that are partially determined by calls for drinks at the bar. I argued, therefore, that perhaps one of the multiple sources of the cry, "Three quarks for Muster Mark" might be "Three quarts for Mister Mark," in which case the pronunciation "kwork" would not be totally unjustified. In any case, the number three fitted perfectly the way quarks occur in nature. (Gell-Mann, 1995, p. 180)

Joyce's line struck Gell-Mann as particularly appropriate, because the hypothetical elementary particles combined in groups of three to form baryons, such as protons and neutrons.

Gell-Mann adopted Joyce's spelling for his "quork," even though Joyce clearly

**Lanska:** You wrote in your book, though, that one of the reviewers of your paper objected, that the name had unfortunate echoes of the author's name, Prusiner ions (Prusiner 2014, pp. 90-91).

**Prusiner:** Yes. That was pretty clever, [but] there was so much vitriol in the rest of the review.

**Lanska:** Now, of course, proteinaceous infectious gets you proin rather than prion...

**Prusiner:** Right, which is like loin.

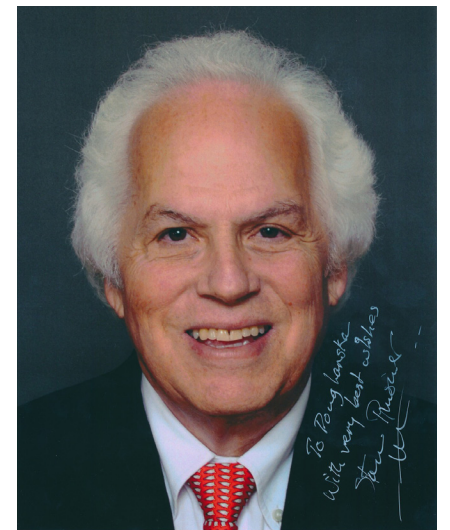
**Lanska:** Which has kind of a funny sound to it, of course, no matter how you pronounce it. So you made another, little flexible change in that, just to give it a more catchy flavor, I think. Is that fair?

**Prusiner:** Yes. Proin is not a good word.

**Lanska:** But proteinaceous infectious as an acronym would get you that, right?

**Prusiner:** Yes.

**Lanska:** A lot of people didn't like the term.



Stanley Prusiner

**Prusiner:** Yes.

**Lanska:** There was a lot of backlash. Why do you think there was so much animosity to that term?

**Prusiner:** If you read what other people have said, they didn't like it, because essentially I took over the field by putting my imprimatur on the field prematurely, because I didn't have enough information to come up with a word. That really is what I should have done was call it a Gibbs or a Gajdusek, [after NIH researchers C. Joseph Gibbs, PhD (1924-2001) and D. Carleton Gajdusek, MD (1923-2008), who first demonstrated the experimental transmission of kuru and Creutzfeldt-Jakob disease to chimpanzees in the period from 1966-1968 (Gajdusek et al, 1966, 1968; Gibbs et al 1967)] or a Gajdusek and a Gibbs, or a Gibbs and a Gajdusek, or something like that, or a Dickinson [after British veterinary geneticist and scrapie researcher Alan Dickinson, PhD (1930-2017)]. Of course, this was nonsense from my point of view.

I did exactly what Frank Westheimer told me to do. The result was exactly what Westheimer wanted to have happen, which was to get a good word and not have somebody else take over. They had a lot of time. I was the new guy on the block. But they never could figure out anything about what was truly going on. They didn't have a way of doing something, or they weren't clever enough, or they weren't sufficient showmen to figure out where all of this was going to go. But Westheimer saw it and called it completely.

**Lanska:** I think they were stuck in one little framework.

**Prusiner:** Yes.

**Lanska:** And they struggled to keep fiddling with "unconventional virus" [or] "slow virus."

**Prusiner:** They had their own words, that's true, but they were really dumb. "Unconventional virus" is as dumb as it gets.

There's that great quote that's in [my memoir] from [scrapie researcher] Iain Pattison [of the British Agricultural Research Council's Compton Research

## GRANTS-IN-AID

# 2018 Call for Applications for Grants

To further its mission to “foster quality neurology and brain health worldwide,” the WFN is offering up to six grants of \$25,000 with a maximum spend of \$100,000. To see the complete rules and regulations for the 2018 grants, The WFN has been offering grants since 2011. For the list of prior grantees and reports, [click here](#).

To download Grants in Aid 2018 Rules and Regulations [click here](#).

**Eligibility**

Young neurologists, less than 10 years from graduating in neurology, from WFN Member Societies are eligible.

Preference will be given to residents in areas of World Bank low/lower middle-income countries.

The WFN wants to fund low-cost, high-impact educational and outcomes research projects. International cooperation is encouraged with a priority on low-income countries.

*Note:* Projects to provide routine health care and fund ongoing research proposals are not eligible.

**Criteria**

Projects should be in education, improvement of services (regional or national) or scientific, and require the collection of data to test a hypothesis.

Each grant will have to satisfy its terms of agreement. (See below.)

In the application, address the following points:

**Relevance:** How does the project directly address the mission of the WFN?

**Value:** What is the return on invested effort in funds and/or time?

**Viability:** Is this a time-limited project with a measurable outcome or is it an initiative that will grow and support the development of further research or care?

**Synergy:** Will this enhance interaction within and between the WFN and among committees, initiatives, and task forces, with outside partners, governmental and non-governmental organizations, the World Health Organization (WHO), and fundraising agencies?

Please suggest possible partners. For example: A project on stroke would probably be interesting for the World Stroke Organization (WSO); epilepsy possibly with the International League Against Epilepsy (ILAE).

**Evaluation:** How will the research outcome be measured? Outcomes and goals should be defined in the application.

**Management:** Good governance, transparent monitoring, and clear interim and financial reports are required.

**Co-Sponsored Grants**

The WFN encourages co-sponsored grants. These grants will be co-sponsored by the WFN and a partner organization. The partner organization

can be a scientific society, such as ILAE or Movement Disorder Society (MDS), a regional society, or a national society. The partner organization will sign a sponsorship agreement with the WFN to define the shared costs and the role of the individual partners in this project.

Project responsibility and reporting will be shared by the WFN and the partner organization.

**Deadlines**

- Application due by June 20, 2018.
- Applicants notified of results by July 31, 2018.
- Applicants informed of final results by Oct. 3, 2018.
- Funding of successful applicants begins as soon as it can be arranged thereafter.
- Applications are exclusively submitted using the WFN grant application and should include the following:

**Application Checklist**

- The name of the sponsoring group and lead applicant with curriculum vitae
- Title of the project
- Description of the project
- Direct relevance of the project to the mission of the WFN
- Viability of the project
- Timeline of the project, dates and duration
- Detailed budget in U.S. dollars
- Bank electronic funds transfer with confirmation of the same by that bank
- Votum of the local ethics committee •

**PRUSINER**

*continued from page 4*

Institute], in which he says:

“The fourth decade of my association with scrapie ended in 1978, with the causal agent still obscure, and virologists as adamant as ever that theirs was the only worthwhile point of view. To explain findings that did not fit with a virus hypothesis, they rechristened the causal agent an ‘unconventional virus.’ Use of this ingenious cover-up made ‘virus’ meaningless — for is not a cottage an unconventional castle?” (Pattison, 1988) •

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Douglas S. Lanska is associate chief of staff for education at the VA Medical Center, in Tomah, Wisconsin. He is also professor of neurology at the University of Wisconsin School of Medicine and Public Health in Madison, Wisconsin, and professor of psychiatry at the Medical College of Wisconsin in Milwaukee, Wisconsin and the chair of the History and Archives Committee of the American Academy of Neurology.

# WFN Invites Bids to Host WCN 2023

The World Federation of Neurology is pleased to invite bids to host the World Congress of Neurology (WCN) in 2023 from national member societies in the Americas.

If your national society would like to be a candidate to host WCN 2023, please write to the WFN Headquarters Office at the address below to express your preliminary interest by July 31, 2018.

**World Federation of Neurology**  
**Chester House**  
**Fulham Green**  
**81-83 Fulham High Street**  
**London**  
**SW6 3JA**  
**United Kingdom**  
**email: [info@wfneurology.org](mailto:info@wfneurology.org)**

You will be sent an application form to complete and return by Sept. 18. All applications will be treated in confidence and will be reviewed by the WFN to draw up a short list of possible venues. Those that are short-listed will be notified

by mid-December 2018, and a site visit by WFN officers to evaluate the proposed program and facilities on offer will take place in the ensuing three months. A report and recommendation will then be submitted to the Council of Delegates meeting during the WCN 2019 in Dubai, United Arab Emirates, where the final vote will occur.

The WFN looks forward to hearing from any member neurological society that wishes to be considered as the host of WCN 2023. •







# WORLD BRAIN DAY 2018



## Clean Air for a Healthy Brain

### July 22, 2018

BY MOHAMMAD WASAY  
AND WOLFGANG GRISOLD

The theme for this year's World Brain Day was carefully selected to raise awareness of the influence of air pollution on neurological diseases. We hope that this campaign will follow the success of previous World Brain Day campaigns and will touch an emerging, but equally important issue, which is the role of pollution and neurological disease.

In recent times, the effects of air pollution on our health has attracted increasing interest with international institutions providing growing mortality and morbidity data. The latest estimation of deaths attributable to air pollution worldwide is 9 million deaths annually. These deaths are related to cardiac diseases such as myocardial infarction or congestive heart failure, and neurological events such as stroke, lung diseases, and cancer. Stroke notwithstanding, the suspected impact of air pollution on the brain is an emerging and worrisome issue.

#### What Is Air Pollution?

Air pollution is a global and diffuse contamination by noxious bio-aerosols (pollen, germs, and toxins) and chemical compounds (manmade or of natural origin). Mostly long-term exposure to relatively high levels of certain chemicals in workplace air has resulted in many examples of nervous system damage over the past century.

In addition to air pollution, occupational and residential air pollution is emerging. An example is the exposure

to chemotherapy and metabolites in hospital personnel and the biologic circle resulting in contamination of surface water.

#### Which Are These Pollutants?

The chemical nature of environmental pollutants is complex and variable. Some gases (carbon dioxide and methane) are emitted into the atmosphere naturally from the decay of organic waste. Many are entirely manmade.

#### What Are the Sources of the Pollutants?

Although there are some natural sources of air pollution such as volcanic eruptions and fires, most can be attributed to human activities. The major source derives from widespread reliance on combustible fossil fuels for energy needed by industries, transportation, and temperature control (both heating and cooling). Other human activities, such as agriculture practices, livestock, and deforestation, are important additional sources.

#### Impact on Brain Health

Recent publications have shown evidence for air pollution as a stroke risk.

The recent Global Burden of Disease study, for example, has investigated data from 1990 to 2013 in 188 countries. It demonstrated that air pollution contributes to up to 30 percent of the burden of stroke.

The adverse effects of air pollution are most important in low- and medium-income countries and for vulnerable

patients with other vascular risk factors or a prior history of stroke.

Stroke is the leading cause of motor disability, the second cause of death in people older than 60 years, one of the main reasons for hospitalization, and a risk factor for dementia.

The list of possible air pollution and environmental pollution adverse effects is increasing. Neurodevelopmental disorders and neurodegenerative diseases, and possibly also neuroinflammatory diseases, are discussed among others as having a potential association to polluted air.

#### Awareness

Air pollution and environmental pollution is a potentially modifiable risk factor for some cerebrovascular and neurodegenerative diseases. The dogma has changed: Prevention is definitely not only an individual concern but must be considered at the societal level. This enlarging worldwide public health problem requires environmental health policies to reduce air pollution to protect brain health and not only lungs.

#### Next Steps

WFN material for the World Brain Day has been developed and will be sent to member neurologic societies. If you have any queries and suggestions, contact us at [wbd2018@wfneurology.org](mailto:wbd2018@wfneurology.org).

We look forward to many activities around the 2018 World Brain Day! •

Mohammad Wasay is the WBD committee chair.  
Wolfgang Grisold is the WFN secretary general.

## PRESIDENT

*continued from page 2*

### Structure and Visibility

The London office has been relocated to a larger space within its present location in Chester house in Fulham. The office staff will continue to be led by Laura Druce and assisted by Jade Levy (nee Roberts) and Carlos Hunte and with Chiu Keung Man providing valuable IT support. Chiu will also review all electronic media to harmonize the WFN logo and livery across the website and all communication platforms (Facebook, Twitter, and the website) as well as Office Communications and all WCN material. He is also completing the insertion of the newly promulgated EU General Data Privacy Regulations into all the WFN member information.

A new committee, the e-Communications Committee, will oversee these activities and will be chaired by Prof. Walter Struhal. A subgroup of this committee, aided by Profs. Wolfgang Grisold, Morris Freedman, and Riadh Gouider, are preparing a paper on e-learning to guide the WFN on this aspect.

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**With this base, the WFN will be in a position to explore and expand its educational and other activities.**

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The new committee members will be posted on the WFN website shortly. The roles and charges for each committee will be updated by the new committees. On behalf of the trustees, I offer my thanks and congratulations on those who have assumed new roles. I also offer my most sincere thanks to those who have completed their two-year terms for jobs well done.

With increasing activities to be managed by the London Office and the WFN committees, Prof. Wolfgang Grisold, the secretary-general, is preparing a "universal calendar." It is envisaged that this will contain the timelines for all routine office activities and those for all committees each year. It will be an important e-document that will be relatively easy to revise and update as required and to which the Standard Operating Procedures (SOP) for each and every function will be able to be added. It is hoped that this will aid the efficiency of the office for day-to-day work and its "corporate memory."

With this base, the WFN will be in a position to explore and expand its educational and other activities. •

# Next European Board Examination in Neurology

BY PROF. JAN KUKS

The next Exam of the European Board of Neurology (EBN) will take place on Friday, June 15, 2018 at the EAN congress site in Lisbon.

Prof. Wolfgang Grisold from Vienna successfully started this annual event in 2009. This year, we celebrate the 10th examination.

Every year, the number of participants increases. We receive a lot of mostly positive feedback from our candidates, which makes it possible to improve the exam continuously. Many young neurologists consider taking this exam to aid them while preparing for the written tests and writing their contributions for the oral exams.

Participating in the EBN exam is not merely a way of showing success in retrieving information accumulated during training and reading literature, but more than that a demonstration of the ability of sound reasoning, presenting insight and working with accessible knowledge. Candidates are allowed to use external reference sources and prepare work at home that will be judged – and can be modified after personal feedback – before they come up for the real exam.

They can update and expand their knowledge and abilities, take part in a unique academic experience, and get an additional sign of excellence. Thus, they show their commitment for life-long learning. Although the EBN exam has no legislation until now, the title “fellow



Candidates at the European Board Examination in Amsterdam.

of the European Board of Neurology” (which does not coincide with “fellow of the EAN”) may enhance the candidate’s possibilities to work in other countries within and outside Europe.

For the next years, the collaboration between EBN and EAN will be intensified in a great way. Using more technical possibilities (as provided by the Swedish

Company Orzone) will allow us to extend our questions to imaging, signal analysis, and clinical judgment with the help of movies.

Candidates who are members of EAN’s Resident and Research Fellow Section for at least one year now get a considerable reduction.

More information can be found at

[www.uems-neuroboard.org](http://www.uems-neuroboard.org).

We sincerely hope to get more European candidates, not only junior neurologists, but also those who are already practicing. •

Prof. Jan Kuks is the chair of the EBN examination committee, and works at the University Medical Center Groningen in the Netherlands.

## JOURNAL OF THE NEUROLOGICAL SCIENCES

### Editor’s Update

JOHN D. ENGLAND, EDITOR-IN-CHIEF,  
JOURNAL OF THE NEUROLOGICAL SCIENCES

For many years, tardive dyskinesia was a poorly understood clinical syndrome with no effective therapy. Thanks to new research, we now have a greater understanding of the pathophysiology of tardive dyskinesia and new therapies for the condition.

A summary of this new and important information about tardive dyskinesia is now available in the *Journal of the Neurological Sciences*. I am pleased to announce that a special issue on Tardive Dyskinesia, edited by Drs. Daniel Truong and Robert Hauser, has been completed as volume 389 (June 15, 2018) and is available on the website for the *Journal of the Neurological Sciences*.

Importantly, the special issue will be “free access” via the online journal

site through the year 2018. Elsevier has added a special link via the online journal site called “SI Vol 389, 2018” under the tab “Free Articles” to enhance accessibility.

The special issue is also available on ScienceDirect. I encourage all of you to access this issue, which is currently the most up-to-date monograph on tardive dyskinesia. Its publication is especially timely since there are new medications and other new treatments for the condition.

I would like to take this opportunity to thank Drs. Truong and Hauser and all of the invited authors of this special issue for their outstanding contribution to the *Journal of the Neurological Sciences* and the medical and scientific community. Also, I would like to acknowledge Peter Bakker, our executive publisher at Elsevier, for helping us arrange free online access of this series of articles for the remainder of the year. •



JOHN D. ENGLAND, MD



## Calendar of Events

**June 16-19**  
**Fourth Congress of the European Academy of Neurology (EAN 2018)**  
**Lisbon, Portugal**  
<https://www.ean.org/lisbon2018>

**July 6-7**  
**19th European Federation of Autonomic Societies Meeting (#EFAS18)**  
**Vienna, Austria**  
<http://efasweb.com/>

**July 6-10**  
**15th International Congress on Neuromuscular Diseases (ICNMD 2018)**  
**Vienna, Austria**  
<http://www.icnmd2018.org/>



# Victor Soriano

The Soriano Lectures at the World Congresses of Neurology were named for his contributions and lasting presence

EDUARDO WILSON

Victor Soriano was born on Feb. 8, 1909, in the Isle of Rhodes. At the time, the Isle of Rhodes was under the possession of Turkey, and soon after of Italy. Victor was the second of five siblings. His parents were Félix Soriano and Catalina Junio, both Sephardic Jews. They emigrated to Uruguay when Victor was 9 months old. This explains why Victor considered himself Turkish, Italian, and Uruguayan.

Once in Uruguay, the Soriano family settled in its capital city, Montevideo, in the historical district, where Victor chose to live the rest of his life. His father, an efficient and respected tailor, soon became popular among the Jewish community. His income quickly increased, and he gained great respect, especially after founding the first Sephardic synagogue in the city.

Young Victor was a hard-working student who in 1925 was admitted to the school of medicine, from which he graduated in 1934. During his period as a medical student, he paid special attention

to Prof. Americo Ricaldoni's teachings of clinical neurology at the Hospital Maciel. Prof. Ricaldoni was the first academic neurologist in Uruguay. Due to his efforts, the Instituto de Neurología of Montevideo was founded in 1926, having Prof. Ricaldoni as its first director.

After graduating, Victor Soriano was appointed neurologist of the Instituto de Neurología in 1935. This was a challenging time for the institute, because of the absence of a leader after Prof. Ricaldoni's death in 1928, scarcely one year after the inauguration of the new institute.

Two years later, the authorities finally appointed Prof. Alejandro Schroeder as Ricaldoni's successor in 1937. Prof. Schroeder started a period of reconstruction with the help of the few remaining neurologists, Victor being one of them. In 1939, Victor was promoted to assistant neurologist. Simultaneously, he was invited to teach neurology at different medical clinics in the Hospital Maciel and the Orthopedical and Traumatological Institute. In 1943, he was appointed associate professor of medicine.

In 1939, Victor married Clara Benzecry (Clarita, as she was known). She was his wife and his efficient secretary as well and permanently encouraged him in all his activities, both social and medical. After Victor founded the Uruguayan Committee of Friends of the Weizmann Institute of Israel, it was Clarita who organized its meetings, which were held at the Sorianos' home. Every Tuesday evening, she hosted scientific, literary, and musical events.

In 1945, Victor traveled to the United States as a Rockefeller fellow, staying at Yale University with John Farquhar Fulton, Sterling professor of physiology, who appointed him instructor of physiology. Fulton inspired in Victor a deep and lasting admiration. In 1947, as visiting investigator of the Rockefeller Institute for Medical Research, he worked with Prof. Hiram Houston Merritt at the Montefiore Hospital of Columbia University. Since 1948, he attended with Clarita all of the meetings of the American Neurological Association (ANA). In 1950, he was named delegate for Uruguay to the Iberoamerican College of Neurologists. Victor and Clarita were regular attendees to the International Congresses of Neurology from the initial preparatory meeting in Lisbon in 1953 and the first official congress held in Brussels in 1957.

At the congress held in Rome in 1961, Earl Walker of Baltimore, Giuseppe Moruzzi of Pisa, and Victor of Montevideo paid tribute to the memory of John F. Fulton, who had died the previous year. At that meeting, Fulton's friends and collaborators decided to organize the Fulton Society, and Victor was elected as permanent president. This society commended its president to organize



Victor Soriano

a special symposium, every two years, simultaneously with the World Congress of Neurology and the ANA meeting, where selected leaders of neuroscience should give lectures on advances in nervous system research. The first of these symposia was held in Atlantic City in 1965 and continued for many decades, sponsored by the World Federation of Neurology (WFN) and the ANA and organized by Victor and Clarita.

In 1987, Victor and Clarita decided to sponsor a lectureship to be given at the ANA, after 40 years of consecutive attendance to its meetings. The lecture must be given by a member of the ANA. When asked in 1989 why they chose to sponsor a lectureship, the Sorianos answered: "When we first went to the United States in 1945, to stay with Prof. John F. Fulton and afterward with Prof. H. Houston Merritt, we enjoyed the most cordial and warm welcome everywhere, establishing lasting bonds of friendship with outstanding promising young doctors, who are now senior members of the American Neurological

see SORIANO, page 9

During his last four decades, he devoted much of his time to medical journalism, publishing in the most important newspapers of Uruguay weekly columns on different subjects: sanitary education, innovations in medicine, historical aspects of medical practice, with the intention of popularizing and simplifying medical knowledge.

## DEPARTMENT VISIT UPDATE

# Neurology Training at St. Josef Hospital in Bochum

BY MARTIN KADDUMUKASA, MD

**Training Dates:**  
Nov. 6-Dec. 4, 2017

The overall objective of my neurology department visit was capacity-building and strengthening of basic skills training in integrated management of essential emergency care in stroke, other neurological conditions, and procedures at Ruhr University Hospital for Neurology.

### Specific Objectives

I trained in the use of the "Integrated Management Package on Stroke Emergency and Essential Stroke Care." This

included thrombolysis, exposure to new techniques and treatment modalities, specialist for education, and existing training programs. The training allowed me to improve knowledge and professional skills in stroke care in the five selected areas: neuroimaging, thrombolysis, inpatient care, transcranial Doppler scanning, and intensive care.

### Achievements

This training exposed me to the following neurology areas to which I hadn't been exposed before:

- Multiple sclerosis care and management

- Intrathecal treatment options for MS
- Intensive care patient nutrition
- Use and interpretation of ICU monitors
- Management of seizures in stroke
- Thrombolysis
- Stroke diagnosis via transcranial Doppler scan

From the training, I am able to identify the gaps in stroke care protocols in Uganda from emergency patient assessment with international assessment scale, timely patient



MARTIN KADDUMUKASA, MD

management, active rehabilitation, and 24-hour patient evaluation.

### Acknowledgements

Special thanks to World Federation of Neurology and German Neurological Society for funding this training fellowship. In addition to the head of the neurology department, Prof. Dr. Med Ralf Gold, head of stroke and intensive care unit PD Dr. C. Krogias and all staff of Bochum Hospital. •



## SORIANO

continued from page 8

Association and prestigious professors. Thus, when I became a member of the American Neurological Association several decades ago, I returned since 1948 every year with the double reward of enjoying a very outstanding scientific level and seeing dear old friends. Little by little, we have regarded the ANA as a big family, to which we are united by warm affection. Sponsoring a lectureship to be given at the ANA Annual Meeting, we like to think that in future years the Sorianos will be linked to all of you, through a brilliant lecture delivered by an outstanding scientist."

The WFN also has two related endowed lectures in every world congress of neurology. One is the Victor and Clara Soriano lecture and the second is the Fulton Symposium/Soriano lecture. At the most recent World Congress of Neurology in Kyoto in 2017, these lectures included "Grid Cells and the Medial-entorhinal Space Network" by Prof. E.I. Moser (Norway), "Defining the Future of Neurology - Japan, Asia and Oceania" by Prof. H. Mizusawa (Japan), and "Global Neurology Challenges and Way Forward" by Prof. and WFN President Raad Shakir (United Kingdom).

Victor was the author of more than 200 scientific publications in different medical journals, covering different aspects of medicine. In neurology, he preferred epilepsies, spinal cord compression, and peripheral nerve pathology. He gave lectures in several countries in America, Europe, and Asia. Many neurological societies accepted him as honorary member.

Apart from his chief interest in experimental and clinical neurology, he had many hobbies. Boxing and football were a part of his youth. He also engaged in sports journalism. In the attic of his home, he mounted an astronomical observatory provided with a powerful telescope, and he sought relaxation by watching the sky. On occasion, he invited schoolteachers and their pupils to watch the moon and the planets. During his last four decades, he devoted much of his time to medical journalism, publishing in the most important newspapers of Uruguay weekly columns on different subjects: sanitary education, innovations in medicine, historical aspects of medical practice, with the intention of popularizing and simplifying medical knowledge. He loved all kinds of music, instrumental and lyrical, but he was also an admirer of the typical music of Uruguay and Argentina and its poetry, being able to sing from beginning to end the most popular tangos.

Victor died in May 2005 and Clarita a few years later. In 2012, Soriano's brother-in-law agreed with the National Academy of Medicine of Uruguay to sponsor the Victor and Clara Soriano Award for international research in medicine, endowed with (U.S.\$)10,000. •

## IN MEMORIAM

## Eddie Phiroz Bharucha

### Pioneer of Neurology in India (Dec. 27, 1916-Dec. 14, 2017)

**E**ddie Phiroz Bharucha, though born into privilege, was in many ways a self-made man. His mother, Bachha came from a prominent business family in Karachi. His father, Phiroz C. Bharucha (1882-1952), was an eminent physician in Bombay (now Mumbai) who was consulted by M.K. Gandhi and Mohammed Ali Jinnah.

P.C. Bharucha was part of the group of highly qualified Indian physicians who vigorously pushed their claim for academic positions in Grant Medical College on par with the British members of the Indian Medical Service. Their efforts for justice resulted in the formation of a medical college, which facilitated academic advancement of Indian doctors as a matter of policy.

After Eddie's mother died when he was 2, his bereaved father immersed himself in his work and left Eddie to be brought up largely by an English governess, with occasional inputs from his mother's family.

Eddie completed his MBBS and MD in both Bombay and London. He was appointed Honorary Physician in Medicine at the King Edward Memorial and Seth G S Medical College (KEM) Hospital in 1945.

Between 1949 and 1952, he trained in neurology at the Hospital for Nervous Diseases, Queen Square and the Maida Vale Hospital for Nervous Diseases in London. He then proceeded to the United States where he worked for three months each under Dr. Houston Merritt at Columbia University and under Dr. Denny Brown at Boston City Hospital. He returned to India in 1952 and became the first neurophysician to establish a department of neurology in India, with 12 beds at the KEM Hospital in January 1953.

By the time he retired, as emeritus professor in 1974, the KEM Hospital had all of the core elements of the clinical neurosciences, including large epilepsy and neurology outpatient clinics which drew and still draws a large number of patients from all over the country, as well as neuropathology, electroencephalography and electromyography. The department of neurology had now established a reputation nationally and internationally for excellence in patient care, teaching, and academic endeavors. Dr. Bharucha later joined the Bombay Hospital, a large private hospital which also has a strong sense of social responsibility, and which subsequently became a teaching hospital.

Together with his wife, the late Dr. Piloos Bharucha, he promoted and practiced multidisciplinary care in pediatric neurology long before this became entrenched in more developed economies.

From the mid 1950s onward for many years, the couple ran clinics for neurological and pediatric assessment of children with poliomyelitis and cerebral palsy at what was formerly the Children's Orthopedic Hospital. He also played a pivotal role in establishing the Spastics Society of India (now ADAPT, or Able Disabled All People Together).

Positions held domestically included co-founder of the Indian Epilepsy Association, membership of the Neurological Society of India (he was president in 1961), the council of National Academy of Medical Sciences, inspector of the Medical Council of India, examiner for the DM (Doctor of Medicine) and DNB (Diplomate of National Board) exams throughout India, Honorary Lieutenant Colonel in the Armed Forces and physician to the Reserve Bank of India. He received the Dhanvantari Award in 1991 for his outstanding contributions to medical sciences, in particular in the field of neurology.

Overseas, he was the president of the World Congress of Neurology (1989), vice president of the World Federation of Neurology (1969-1973), honorary member of the Association of British Neurologists, special member of the International Cerebral Palsy Society, and honorary member of the American Neurological Association.

His research and publications pertained to stroke, neurological infections (tuberculous meningitis, postconjunctival myelodysplasia), nutritional disorders (especially the relationship between vitamin B, malnutrition, and chronic alcoholism), toxic disorders (lathyrism and mass screening of those exposed to toxic gas in Bhopal within a week of the tragedy), congenital abnormalities (atlantoaxial dislocation), and epilepsy and epidemiology of neurological diseases in the Parsi community. He was on the editorial advisory board of the Handbook of Clinical Neurology (eds., P.Vinken & G.Bruyn, 1973 onward).

Dr. Bharucha was a consummate physician who relied on clinical assessment rather than imaging studies. Notwithstanding his academic achievements and his work to advance the practice of neurosciences, his primary concern always remained the best interests of his patients. This, combined with his deep empathy (particularly toward the underprivileged) and an ingrained sense of social responsibility, led to his involvement in several projects aimed at alleviating the stigma and distress suffered by those with neurological disorders. One example of this was the 12-year campaign that he led



Eddie Phiroz Bharucha

which ultimately led to the repeal of a law that deemed people with epilepsy to be insane. Another was his importing (at his own expense) of an early EEG machine for the KEM Hospital, part by part. He also imported (again at personal expense) medicines for patients that were not available in India at that time, such as d-penicillamine for a patient with Wilson's disease. Finally, his contributions during the riots of Partition, in 1947, should be mentioned. He was among a group of doctors from the KEM Hospital that went to Lahore, where they provided medical relief. Using the Sir Gangaram Hospital as a base, they visited various refugee camps, escorted by troops from the Gurkha regiment. The trip was organized by Lady Edwina Mountbatten and Dr. Jiwraj Mehta.

He was a man who, by virtue of character and example, came to fulfill many roles for many people – clinician, teacher, mentor, friend, husband, father, and grandfather. Piloos and he had three sons – Nadir, Manek-Phiroz, and Adil, eight granddaughters and two great-grandchildren. In 2004, his students, friends, and family created the Eddie and Piloos Bharucha Fund at the World Neurology Foundation to support a perennial named lectureship at the World Congresses of Neurology.

His ethos enveloped the departments he worked in, including other professionals, patients, students, and hospital staff. For the last 20 years of his life, he was virtually blind. In anticipation of his loss of vision, he read several journals of neurology onto a dictaphone, which he was to listen to in solitude after he could no longer see. Ultimately, his hearing was also severely impaired. Nonetheless, he retained his sense of equanimity, never complained, and was always happy to see family and visitors.

His greatest legacy (both in the profession and for his family) will be his personal qualities. He did not seek positions of power or prestige, was unconcerned about material remuneration, and perennially radiated good cheer, kindness, and caring. We mourn his passing but know he remains very much alive in the hearts and minds of all those he touched.

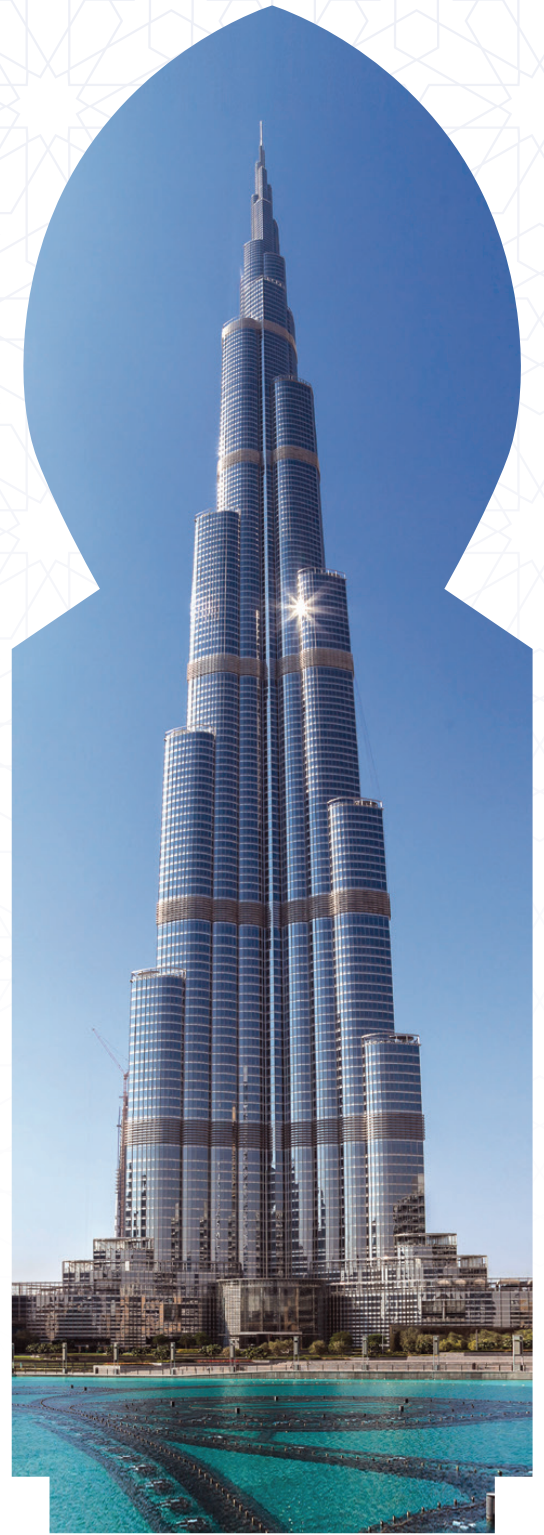
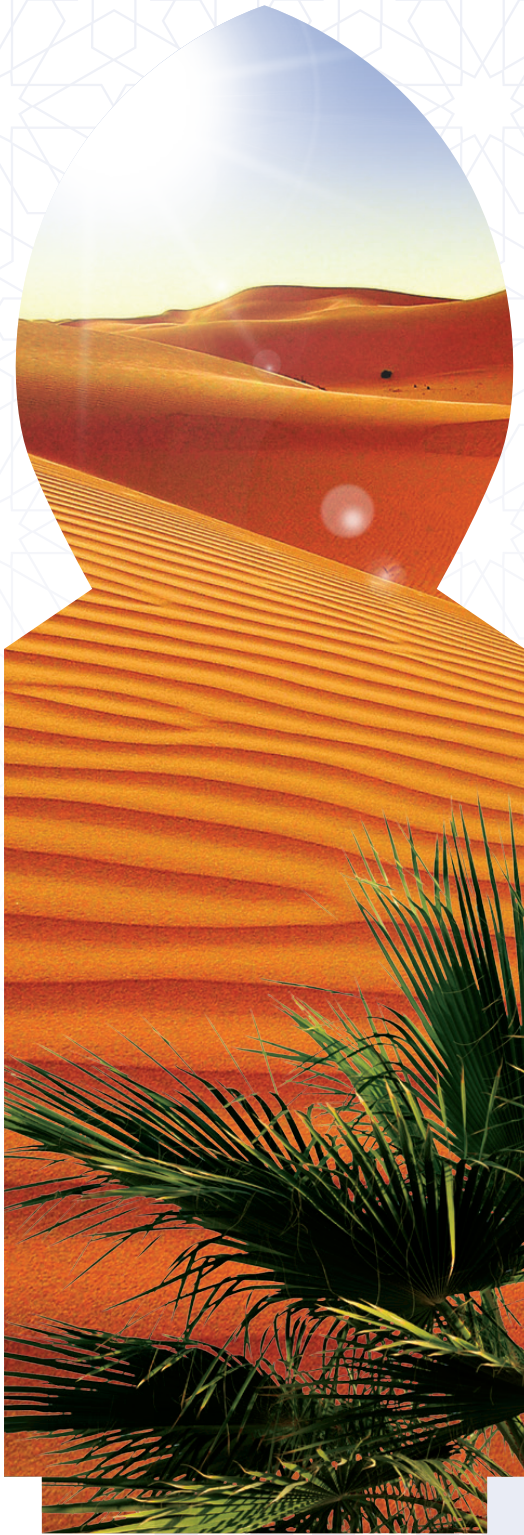
– Nadir Bharucha •





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# WCN 2019

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DUBAI, UNITED ARAB EMIRATES, OCTOBER 26-31 2019



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