



news NEUROVIRTUAL



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The professional course, 'Electroencephalogram: From Routine to Continuous Monitoring' brings experts together in **São Paulo**

More than 100 professionals (including neurologists, neuropsychiatrists, neurosurgeons, and EEG technicians) met in São Paulo on September 23rd to participate in the course "Electroencephalogram: From routine to Continuous Monitoring", developed by Liga Brasileira de Epilepsia (Brazilian Epilepsy League) (LBE), Sociedade Brasileira de Neurofisiologia Clínica (Brazilian Society of Clinical Neurophysiology) (SBNC), and Neurovirtual.

Created by Dr. Elza Marcia Yacubian (UNIFESP) and Dr. Luis Otávio Caboclo (Head of Neurophysiology in HIAE), the course aimed to foster the theoretical and practical improvement of professionals that perform EEG exams. Dr. Elza Marcia commented, *"The electroencephalogram is irreplaceable in neurology and has been undergoing a remarkable development with the appearance of a new specialty: the electroencephalogram in the intensive care unit, with a unique meaning for the diagnosis for patients in general"*.



During the event, the participants could learn about Neurovirtual's state-of-the-art equipment. The BWIII EEG plus ICU was highlighted: a complete monitoring system, enabling the user to perform a clinical EEG and a PSG with the same hardware. The impedance check feature, available directly on the amplifier, enables the technicians to check the impedance status without needing to leave the patient's side.

The course lasted one day and the very dynamic lectures, with a duration of about half an hour each, were held in the morning. Among other subjects,

Dr. Elza Maria Yacubian, Professor of Neurology at Federal University of São Paulo, spoke about activation techniques, hyperventilation and photostimulation, epileptiform activity and EEG indications according to the epileptic syndrome.

Dr. Luis Otavio Caboclo, Neurophysiology Director of



Albert Einstein Hospital, debated the nomenclature consensus with the participants, and Dr. Miriam Guaranha, from Sirio Libanes Hospital, presented the subject "Artifacts; How to Identify and Correct Them".

Neuropediatrician Dr. Paula Giroto, from Children's Hospital Sabará, opened the event with the presentation "Introduction to EEG, 10-20 and 10-10 Technique..." According to Dr. Giroto, *"The interaction between physicians and technicians improves the recording of an electroencephalogram and also the report quality a lot."*

Just after lunch, all participants joined a practical course, which tested their knowledge and enabled an information exchange among them.

The chairperson of Liga Brasileira de Epilepsia, Dr. Maria Luiza Manreza, praised the fact that the course was extremely practical: *"The main factors that should be researched and analyzed in the electroencephalogram were highlighted in the course, and the difficulties in interpreting such exams were also shown."* Ed Faria, Neurovirtual CEO, added, *"Our aim is promoting the theoretical and practical improvement of the professionals that perform EEG exams, with tools and information that cause a positive impact on the routines of patients and their relatives."*





Sleepvirtual participates in the VI Chilean Congress of Sleep Medicine, in the city of Pucón

Sleep is health: a vision of the future. Under this premise, the VI Chilean Congress of Sleep Medicine, held by SOCHIMES, the Chilean Society of Sleep Medicine, took place in Chile from September 28 to 30. It was a scientific meeting characterized by a transversal approach that included different disciplines and visions of sleep medicine.

Aiming to contribute to training, updating and continuous education of all professionals working in the area, the main topics addressed were pediatric polysomnography, circadian rhythms, novelties in the diagnosis of insomnia and updates on the behavior of REM sleep.

Neurovirtual and their Chilean distributor participated in the event by displaying currently available products and offering a product specialist to answer questions and present informational materials to attendees.

Ed Faria, managing director of Sleepvirtual, and Deisy Rojas, LATAM commercial manager for Sleepvirtual were in attendance at the event.

During the congress, Neurovirtual presented its

line equipment to professionals. Featured at the event was the BWMini PSG, capable of type 2 at-home PSG and type 1 in-lab PSG, and upgradeable to ambulatory EEG. Another item presented was the BWIII PSG Plus, which allows the user to perform both EEG and polysomnography from the same hardware and software platform, in a device that can be easily transported from one location to another.

Ed Faria, director of Sleepvirtual, commented, "We actively participate in all congresses and events on sleep medicine. For us from Sleepvirtual, the exchange of information is extremely rich. And we always welcome the experts in the field to know our state-of-the-art equipment at our booth. We will continue investing in participation in events around the world."



XXVI International Dominican Congress of Neurology and Neurosurgery

About 270 professionals gathered from October 5 to 8 in the beautiful city of Punta Cana in the Dominican Republic to participate in the XXVI International Dominican Congress of Neurology and Neurosurgery. Facilitated by the participation of national and international experts, the main topics were neuropediatrics, neuropathic pain, brain tumors, neurosurgery and functional neurosurgery, among others.

Experts from Mexico, the United States, Argentina, Costa Rica, Brazil and the Dominican Republic gave lectures and panels on the usefulness of endoscopy in cerebral malformation, treatment of the herniated disc by the ambulatory procedure of the percutaneous dichotomy by laser, and cerebral infarction of indeterminate origin.

The congress' scientific program also included lectures on multiple sclerosis, ophthalmoplegia and linguistic alterations; necrotizing encephalopathy, case presentation; and effects of convulsions on the cognition and

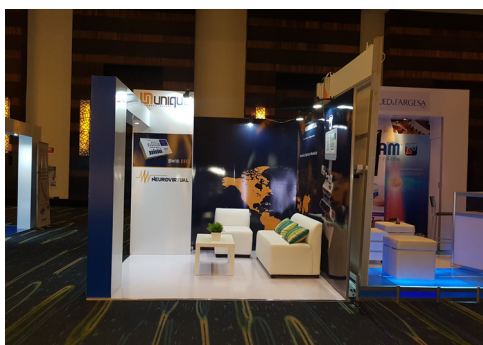
mood of patients with epilepsy.

Neurovirtual, an active participant in the event, set up a stand to present its products, with skilled

professionals to answer questions and informational material about the equipment. Many experts visited the Neurovirtual stand to ask questions and to learn about the latest devices. At the booth, the EEG catalogs and issues 18, 19, and 20 of the Neurovirtual news magazine were given to more than 50 visitors.

Neurovirtual highlighted the BWIII EEG Plus ICU Monitoring EEG, which allows the customization of protocols for the Neuro-ICU and video EEG with online medical evaluation from any workstation.

The Latin America Neurovirtual Commercial Manager, Deisy Rojas, participated in the event and highlighted: *"It is important to be present with specialists at these events, where they have the opportunity to learn about our equipment and gives us the opportunity to learn what they find most useful"*.





Neurovirtual opens new headquarters in Fort Lauderdale

Neurovirtual began in 1969 as a manufacturer of paper for use with analog EEG devices. In the late 1990's the company began to develop their first digital EEG device, and since then, has worked tirelessly to deliver the best products and customer experience in the industries of neurology and sleep medicine. The company has been steadily growing, and recently purchased a new property in Fort Lauderdale, Florida, to serve as the



new company headquarters. Manufacturing, service, sales, and distribution have been consolidated under one roof for greater efficiency and control, creating new opportunities for job growth in the community. The new headquarters office is wholly owned by Neurovirtual, providing a new, centralized location from which to better serve their customers, and to support their satellite offices and international distributor network near and far.

Job creation is an important function of the company,

and this move opens the doors to job creation, with new opportunities in engineering, manufacturing, distribution, and sales, helping to bolster the local economy, a point of pride for the CEO, Mr. Ed Faria. *"While many businesses are outsourcing their manufacturing, assembly, and support jobs to other countries, Neurovirtual is creating jobs right here in the United States, and intends to continue to do so as we continue to grow"*, said Mr. Faria.

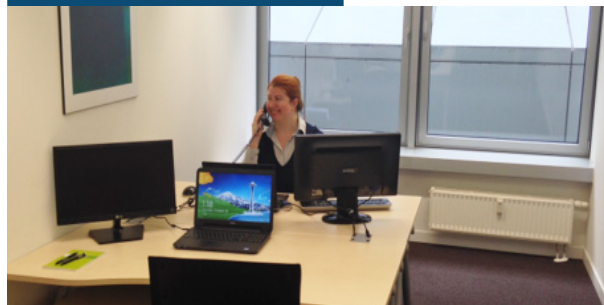
In the past year, Neurovirtual has launched new products, including the BW3 family of routine EEG and PSG devices, bringing greater quality and more options for professionals in the daily care of patients. The company has also refreshed their portable device, the BWMini, with a better design and more capabilities. The company takes great pride in providing more for less, and this promise holds true by keeping their price-point fair, thus making better technology more attainable for a greater number of professionals world-wide.

Outside of the United States, the current family of

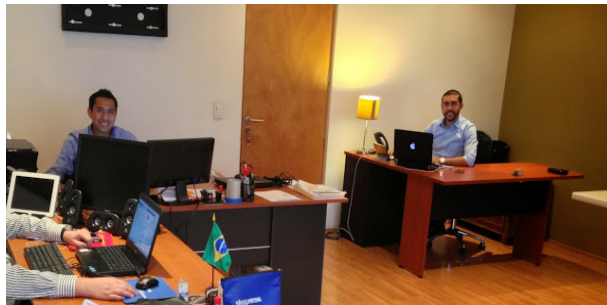
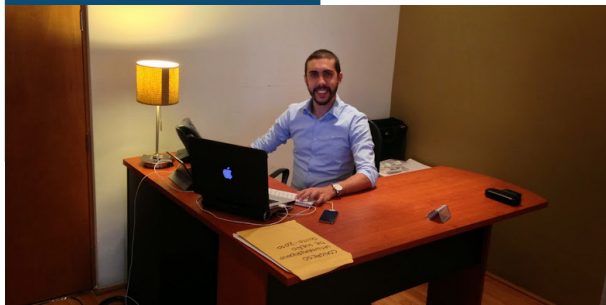


Neurovirtual satellite offices includes Mexico City (Mexico), Bogota (Colombia), São Paulo (Brazil), Buenos Aires (Argentina), and Berlin (Germany). The international distributor network covers Canada, Chile, Spain, Portugal, China, Indonesia, Thailand, Taiwan, and over 30 other countries, giving Neurovirtual a truly global reach. This network is consistently growing, as the company is investing heavily in targeted growth in international markets.

Berlin, Germany



Mexico City, Mexico



Bogota, Colombia



Buenos Aires, Argentina



São Paulo, Brazil





Dr. Sergio de Jesús Aguilar Castillo

Dept. Neurophysiology National Medical Center Siglo XXI
and Neurologist / Neurophysiologist at Sedna Hospital
Comprehensive Neurodiagnostic Services - National
Autonomous University of Mexico Urbana Tlalpan
Fovissste, Mexico City.

NN: Doctor, could you tell us about your career?

Dr. Sergio de Jesús Aguilar Castillo: I am a specialist in neurology, neurophysiology and sleep medicine, I graduated from Universidad Autónoma de Campeche and specialized in neurology and neurophysiology at the Universidad Nacional Autónoma de México. Almost 20 years ago, I graduated from the Hospital Centro Médico Nacional Siglo XXI, where I have worked for 14 years as the head of the Department of Neurophysiology.

NN: Doctor, what are the services offered by Centro Médico Siglo XXI?

Dr. Sergio de Jesús Aguilar Castillo: The department of Neurophysiology was implemented in the Hospital Centro Médico Siglo XXI, 14 years ago, aiming to provide specialized care in Neurological diagnosis. We are a reference hospital and as a reference hospital, we receive patients with difficult diagnoses from the southern part of the republic, focusing in EEG, EMG and evoked potentials.

NN: Doctor, could you tell us about the relationship between sleep and epilepsy?

Dr. Sergio de Jesús Aguilar Castillo: Our research areas have focused on two important aspects: One is the identification and categorization of patients with acquired neuropathies such as Guillain-Barré syndrome, and the other major section is electroencephalography. We have two major areas of interest: One is the epileptic state and epilepsies and the other is epilepsy and the relationship with sleep.

An area of interest that has been awakened lately is the relationship between sleep and epilepsy. It is an area where extra effort has been put on to find the links between the facilitation and presentation of epileptic crises, especially in epilepsies cases of difficult control or diagnosis. Nocturnal frontal epilepsy is one of the difficult cases, which has been under-diagnosed and misdiagnosed as other sleep disorders such as nocturnal paroxysmal dystonia or abnormal movements during sleep. The frontal nocturnal epilepsy is a difficult condition to diagnose and its antecedents come from the '70s/'80s; however, it was only in the '90s that the disorder could be categorized. This is an epilepsy that is not classified as common due to its symptoms, since the fact that this epilepsy originates in the frontal ovum

the characteristics and manifestations are very special. For example, the patients may have clustering crisis at night and experience rapid atypical crisis and totally uncontrolled movements. These epilepsies, may be confused with other sleep disorders, and in the past it was called paroxysmal epilepsy or paroxysmal nocturnal dysphonia that has been misdiagnosed as REM Sleep Behavior Disorder, or with other movement disorders.

Some publications have shown that nocturnal frontal epilepsy has a genetic determination that makes its characteristics. The diagnosis of nocturnal frontal epilepsy is based mainly on the application of technological tools available at the moment, and not only EEG traces – which most of the time the patient has normal tracing – and when the episode is presented, the electroencephalographic activity is obscured by the number of artifacts that are presented by the sudden movements. Therefore, the relationship and the link that exists between the electro-encephalography and the video are of a vital importance to identify these cases, i.e., the study video EEG with the nocturnal registry that we can call the video PSG has been the cornerstone, to identify these disorders.

NN: Doctor, would you recommend Neurovirtual to your colleagues?

Dr. Sergio de Jesús Aguilar Castillo: At our Hospital, Centro Médico Siglo XXI, we have been using the Neurovirtual video EEG for over a year. We have been using the device for two functions: video electro-encephalography for identification of epileptic phenomena, and the other to study coma patients in the ICU and the relationship of vital patterns related to the patient's state. The Neurovirtual team has been very accessible, their software is user-friendly, and we have found practical tools for understanding of the epileptic phenomenon. The BWIII has been very useful. We work with different specialties within the hospital, mainly in neurology, neurosurgery and intensive therapy. I am also very happy and satisfied that Neurovirtual has a technical support team available 365 days of the year, and their response is immediate through the telephone, helping us to solve the few inquiries we have had since buying the equipment.

Neurovirtual participates in the Mexican Chapter of the International League Against Epilepsy (Camelice)

About 350 specialists in neurology and epilepsy participated in the XL Camelice Congress (Mexican Chapter of the League Against Epilepsy), which took place in late July in Tijuana. The event had a program in partnership with the University of Calgary and offered courses on epilepsy via satellite to psychologists and neurologists.

Neurovirtual featured the BWIII EEG Plus, one of the most advanced in the market.

The equipment allows protocols customization for the Neuro ICU, NICU, ICU Trauma, EEG / LTM video and online medical evaluation from any workstation, including mobile devices.

Another device presented was the BWIII EEG, an electroencephalograph with brain mapping, audio and photo stimulator intended for routine exams that exceeds the minimum technical requirements defined by ACNS (American Clinical Neurophysiology Society).

"We had the opportunity to meet several of our clients, talk to them and understand their real needs. For Neurovirtual it is very important to create these communication links to know in detail what they need to support them in the most appropriate way," said Marcelo Belli, Neurovirtual sales manager, company representative at the event.



Neurovirtual held EEG course in Indonesia

Continuing its commitment to education in the field of Neurology worldwide, Neurovirtual is proud to have been a sponsor at the Indonesian Annual Congress of Neurology, held July 28-31 in Jakarta, Indonesia. Neurovirtual offered an EEG workshop for experts from various parts of the country, covering the topics listed below, which were praised by participants.

- Normal EEG (awake/sleep) and normal variants in adults and children
- How to recognize artifact and differentiate from cerebral origin
- EEG patterns
- Epileptiform patterns
- Non-epileptiform patterns
- EEG pattern in common epilepsy syndrome
- EEG pattern in encephalopathy
- Hands-on with Neurovirtual EEG System



"EEG workshops like this one are extremely important for Neurovirtual and fulfilling our mission to universalize EEG diagnostics. They allow for the opportunity to interact closely with local physicians on a personal level, and show them the unique features of our technology that help them better address their patients' needs," said Felipe Lerida RPSGT, Neurovirtual's clinical product manager, who participated at the event.



Neurovirtual participates on average in 20 to 30 congresses and conferences in different countries around the globe. Taking our goal to humanize the diagnostic, we pride ourselves to be part of this community and be able to give our contribution to clinicians and patients.

Below you will find the list of events for 2017, where Neurovirtual will be presenting its solutions to make neurology and sleep diagnostic more human! We hope to see you there!

USA

Annual distributor Training event

Relexa Düsseldorf Airport Hotel

12 and 13 November 2017

Medica - Düsseldorf

Messe Düsseldorf, Stockumer Kirchstr. 61 D-40474, Germany

13 to 16 November 2017

AES Annual Meeting 2017

Walter E. Washington Convention Center, 801 Mt Vernon Pl NW, Washington, DC 20001

1 to 5 December 2017

BRAZIL

XXVI Congresso da Sociedade Brasileira de Neurofisiologia Clínica

Centro Convenções Goiânia- Goiás

26 to 28 October 2017

Congresso Brasileiro do Sono

Expoville- Joinville Santa Catarina

1 to 4 November 2017

COLOMBIA

Curso Teórico Práctico de Trastornos Respiratorios del Sueño en Pediatría

Bogotá- Colombia

20 to 22 October 2017

ARGENTINA

Lace 2017 - Congreso Liga Argentina Contra la Epilepsia

Salguero Plaza Jerónimo Salguero 2686 - Ciudad de Buenos Aires

5 and 6 October 2017

54° Congreso Argentino de Neurología

Sheraton Mar del Plata Hotel Leandro N. Alem 4221, B7602DXC Mar del Plata, Buenos Aires

28 November to 1 December 2017

MEXICO

XLI Reunión Anual de la Academia Mexicana de Neurología

Boca del rio Veracruz, Mexico

29 to 5 November 2017

ECUADOR

XVIII Congreso de la SEN y XVII Jornadas de la LECE Cuenca

Av Ordoñez Lasso S/N, Cuenca

07 to 10 October 2017

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