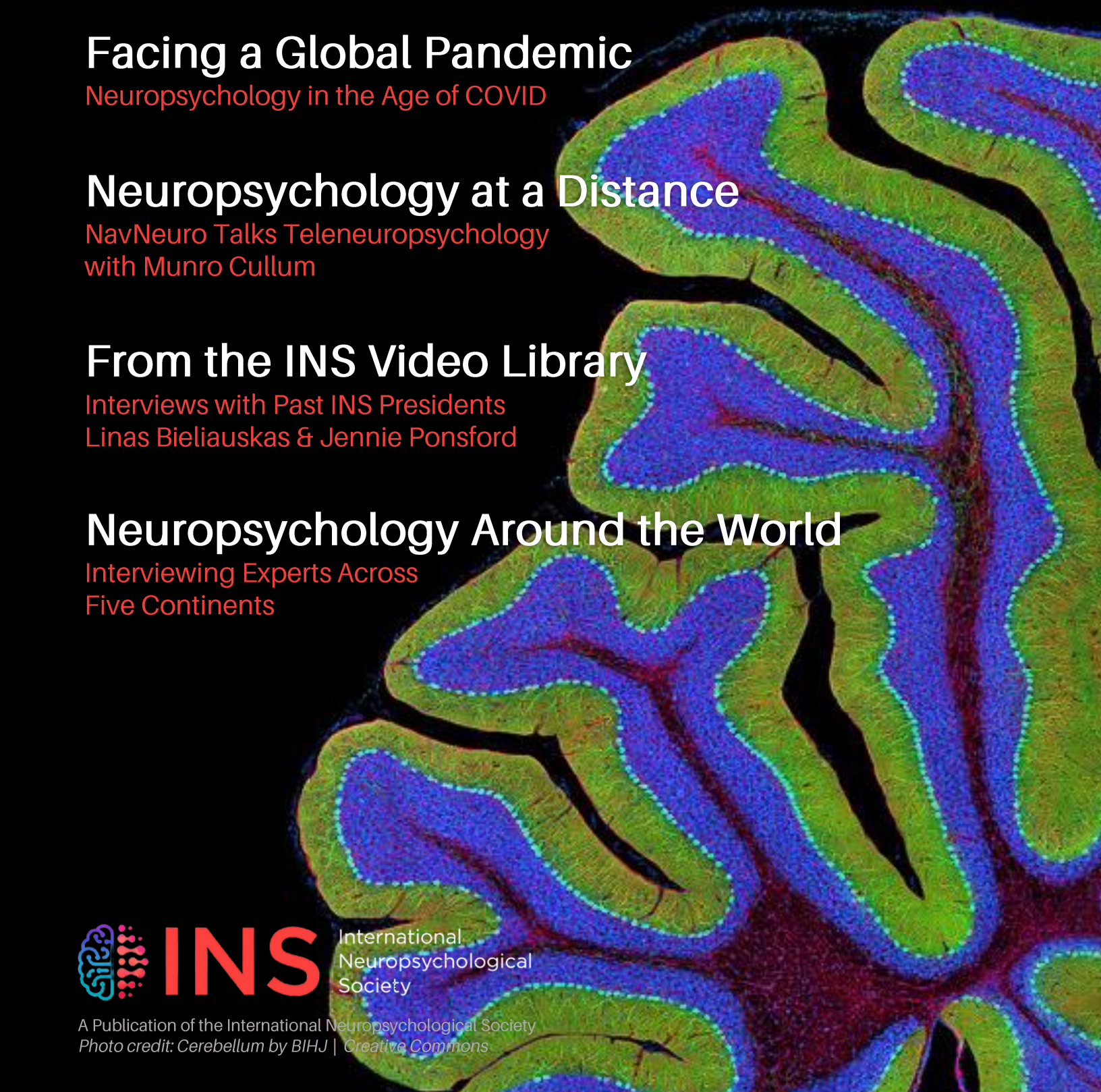
# INSnews

INS | Where the World Meets

2020 | issue 2



## Facing a Global Pandemic

Neuropsychology in the Age of COVID

## Neuropsychology at a Distance

NavNeuro Talks Teleneuropsychology with Munro Cullum

## From the INS Video Library

Interviews with Past INS Presidents Linas Bieliauskas & Jennie Ponsford

## Neuropsychology Around the World

Interviewing Experts Across Five Continents

INS International Neuropsychological Society

A Publication of the International Neuropsychological Society

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# The INS Newsletter Team

**The times are a changing!** We here at the INS Newsletter hope that this edition finds you safe, healthy, and happy. With all of the uncertainty in the world today, know that you can count on the INS Newsletter to bring you the latest and greatest news from our organization and membership.

Over the past year, I'm sure that you've noticed a new look and format to the newsletter, but I hope that you have also appreciated some of the changes in content. We have added a Special Interest Groups section, expanded our Student and Trainee section, and much more. As always, we strive to create a resource that adds even more value to your INS membership – and keeps you connected to neuropsychology across the world.

Cody Bloorle PhD

INS Newsletter Editor

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Pamela Dean, PhD, ABPP
*Science*

Ozioma Okonkwo, PhD
*Science*

Natalie Grima, Dpsych
*Clinical*

Maxine Krengel, PhD
*Clinical*

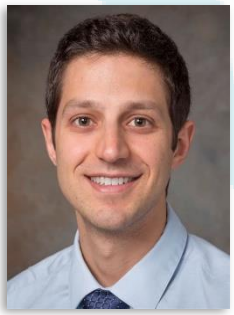
Lena Dobson, PhD
*Special Interest*

Holly Miskey, PhD
*Special Interest*

Omar Alhassoon, PhD
*Global*

Leal Giselle, PsyD
*Global*

Ryan Van Patten, PhD
*NavNeuro*



John Bellone, PhD
*NavNeuro*

Leslie Gaynor, MS
*NavNeuro*

Joshua Fox-Fuller, MS
*Student Liaison*

# Inside This Edition

## Society News



## Special Features

# In This Edition



# Standard Features



# Member Resources

# From the President

## A Message from INS President Margaret O'Connor

Dear INS Members:


Margaret O'Connor, PhD

In the context of COVID-19, we are confronted with a new world order. Over the past few weeks we have repeatedly heard the phrases "stay home," "stay safe," and "maintain social distance." We encourage INS members to also "stay connected."

INS is well positioned to nurture our global connections during this unprecedented time. This crisis has given us the opportunity to think about novel ways to communicate with one another, to promote neuroscience research and to fine tune clinical practices for brain and emotional health – which are needed even more in the context of COVID-19.

The board at INS and our front office in Utah remain steadfastly committed to the INS mission of supporting relationships, educational opportunities and scientific collaborations across the world. Our INS newsletter is one way of doing that. Other initiatives include cutting edge educational and social media platforms that will reshape how INS members learn from one another.

In the midst of turmoil and uncertainty, the INS remains committed to its membership. We are a strong, intelligent, and dedicated group of people. We will get through this. Please know that our thoughts are with you and loved ones during this trying time ■

Margaret O'Connor, PhD
INS President

# From the Executive Director

## Important Details for the Upcoming Meeting in Vienna, Austria

Global Neuropsychology Colleagues:

Marc Norman, PhD

We are writing to update all of you on the status of the 2020 The International Neuropsychological Society & Association for Neuropsychology Austria (GNPÖ) Congress in Vienna, Austria. The meeting is scheduled for July 1st to 3rd, 2020 and this year's Congress theme is *The Neuropsychology of Pleasure, Dreaming and Memories*.

Recent events remind us how globally interconnected we are. There are confirmed cases of COVID-19 infections across Europe, and there are no official recommendations to cancel or postpone meetings in Austria. We want you to know that we are monitoring local and international information, and we continue to receive guidance from our partner organizations, the World Health Organization, and Austrian Ministry of Health.

This is a dynamic situation, and we will update you as the situation develops. Based on the Austrian Federal Pandemic Plan, Vienna has drawn up its own pandemic plan, which will be adjusted continuously if required. In the interim, you can find the most current Austrian information in English about the spread of the virus on the websites of the Ministry of Health as well as the City of Vienna. Other helpful resources include:

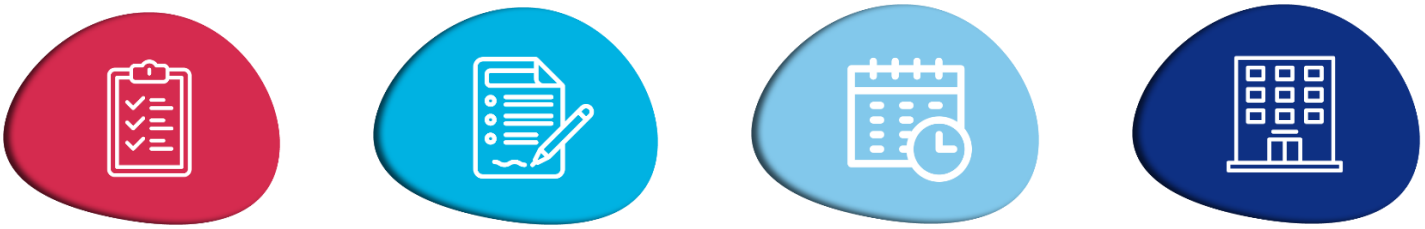
- The World Health Organization (Link).
- The European Centre for Disease Prevention and Control (Link).
- The United States Centers for Disease Control and Prevention (Link).

Please see the next page for meeting details. We look forward to having you join us in Vienna for cutting-edge science and fun ■

Marc Norman, PhD
INS Executive Director


From 1 to 3 July 2020, the INS and Association for Neuropsychology Austria (GNPÖ) will be co-hosting an annual meeting in the beautiful city of Vienna, Austria.

The meeting theme is *The Neuropsychology of Pleasure, Dreaming, and Memories* to highlight the neuroscience of gender differences, emotions, and dreams. Visit the Vienna 2020 meeting website and secure early registration no later than 4 May 2020 ■



# INS Went Mile High

## Highlights from the Recent Meeting in Denver, Colorado, USA

From 5 to 8 February 2020, the INS hosted the first of its two annual meetings. This year, INS members reunited in the Mile High City of Denver, Colorado, USA. Meeting highlights included:

- Photo gallery of meeting attendees in action. See if you can spot yourself or a friend here!
- Internationally recognized speakers spanning past INS Presidents and institutions such as the University of Montreal, University of Oregon, Yale University School of Medicine, University of California San Diego, Harvard Medical School, Monash University, and more.
- Invited symposia on trending topics in the field related to big data, exercise and cognition, chronic traumatic encephalopathy, and a memorial dedicated to the life and works of Dr. Donald Stuss.
- A multitude of fun and informative gatherings including student events & socials, special interest group meetings, CE workshops, poster sessions, paper sessions, and more.
- Member support services to ease attendance, including childcare services, a meditation lounge, and other wellness resources for use throughout the meeting.

**2300** people in attendance

**36** countries represented

**21** paper sessions

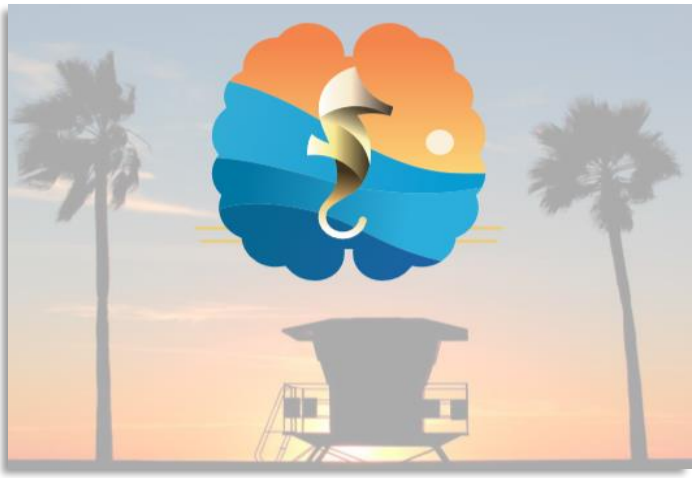
**20** continuing education workshop hours

**1156** submitted abstracts

**11** poster sessions

# Future INS Meetings

## Save the Date for San Diego, USA & Melbourne, Australia



From 3 to 6 February 2021, the INS will be hosting the first of its two annual meetings in the sunny city of San Diego, California, USA. The meeting will have a high-quality scientific program to include prestigious keynote speakers, symposia, paper presentations, and poster sessions – all at the luxurious Town and Country Hotel.

Check out details for the San Diego meeting as they develop on the INS website. For details about other meetings of interest throughout the year, please see this newsletter issue as well as visit the Related Meetings page of the INS website ■

INS is excited to announce that the second meeting of 2021 will be hosted in the beautiful city of Melbourne, Australia.

The tradition of a second meeting began in 1977, and ever since has been held in a city outside of North America. With average attendance closing in on one thousand members, this annual meeting is a highly anticipated event on the international neuropsychology/neuroscience scene.

Keep checking the INS website for meeting details as they develop ■

## 2020 DUES PORTAL IS NOW OPEN

Click here to renew your INS membership for 2020

# INS Unites with the ILAE

## INS Signs a Memorandum of Understanding (MOU) With the International League Against Epilepsy

Sarah Wilson, PhD, University of Melbourne
Bruce Hermann, PhD, Co-Organizer, University of Wisconsin – Madison

At the recent Denver meeting, the INS signed a Memorandum of Understanding (MOU) with the International League Against Epilepsy (ILAE), representing a major step for the INS as this is the first MOU with a medical organization. All prior MOUs have reflected the formal development of relationships with other neuropsychological organizations.

This MOU represents an exciting new synergy between these two international organizations, with the broad intent to increase the profile of neuropsychology in epilepsy and vice versa. In particular, it will involve neuropsychology more formally in the international education, training and advocacy efforts of the ILAE, and bring the neuropsychology of epilepsy and the ILAE Neuropsychology Task Force into the international educational and outreach efforts of the INS through the International Liaison Committee, as well as the North American and non-North American annual meetings.

Professor Sarah Wilson, Chair of the Diagnostic Methods Commission of the ILAE, and Professor Vicki Anderson, President of the INS, are shown below during the formal signing ceremony ■

The ILAE joins several other organizations that have signed MOUs with INS:

- Federation of the European Societies of Neuropsychology
- Sociedad Latinoamericana de Neuropsicología
- Asociación Latinoamericana de Neuropsicología
- Australasian Society for the Study of Brain Impairment
- Australian Psychological College of Clinical Neuropsychologists

Dr. Wilson representing the International League Against Epilepsy at the MOU signing.

Dr. Vicki Anderson representing the International Neuropsychological Society at the MOU signing.


Dr. Wilson addressed the audience in attendance for the MOU signing at INS in Denver.

# INS Calls for Applications

## Apply Now for These INS Funding and Service Opportunities

### Apply for the Charles Matthews Fund

At a time of crisis it is good to have something positive to work towards! Are you able to help your colleagues to develop neuropsychology around the world? Apply for the Charles G. Matthews International Neuropsychological Development Fund!

**What is the Charles Matthews International Neuropsychological Development Fund?**

Chuck Matthews, the 1992 President of INS, was a strong advocate for making INS instrumental in developing neuropsychology throughout the world, especially in low-resource countries. As a result, the INS instituted the Charles G. Matthews International Neuropsychological Development Fund in his name in 2003. This fund's purpose is to support educational and training activities in countries where neuropsychology is less well developed/resourced. Funds can be used to sponsor travel expenses for speakers, other meeting expenses or costs associated with running webinars, workshops, or meetings.

Past workshops sponsored by this fund can be viewed online here.

To apply for the fund:

All applications for the Charles Matthews International Neuropsychological Development Fund should be submitted to the Chair of the International Liaison Committee of INS, Professor Jonathan Evans.

The deadline for applications is 1 May 2020. Decisions about funding will be communicated to applicants by June 30th, 2020. It is expected

that funds requested not exceed $5,000 USD.

Eligibility criteria for the fund includes:

- Applicants, and the faculty invited to speak, must be dues-paying INS members.
- The proposed training event should take place in countries where neuropsychology is less well developed/resourced, with priority given to applications from countries classified as lower- or middle-income (according to World Bank/UN classification).

Please include in your fund application:

1. Program Title.
2. Program Director.
3. Program director's institution, address, and email address.
4. Dates the proposed program will take place.
5. Geographic area to be served by the program.
6. Estimated number to be served.
7. Description of the specific program to be funded (including objectives, activities and a preliminary program). Give details of the faculty who will speak including qualifications and experience.

8. Describe how INS funds will be used? State the specific goals you wish you achieve and how INS funds will be used to support the achievement of these goals. Outline any needs for support for speaker travel and accommodation expenses, meeting site hire, videoconferencing facilities, audio-visual equipment, translation, other services.
9. Describe how the event will be promoted and how INS's support will be publicized.
10. Describe how you will inform delegates about how to join INS.
11. Describe how the impact of the program will be evaluated.
12. Applicants must provide a report and financial account within 30 days of event completion.

All applications will be reviewed by the INS International Resources Chair, the INS Treasurer, and at least two of the International Resources regional representatives.

Applications will be rated against these criteria:

- The application includes a clear set of objectives for the training event
- The objectives for the proposed program are consistent with the missions of the INS and the Charles G. Matthews International Neuropsychological Development Fund
- Funds requested are clearly justified and reasonable.
- The final decision regarding funding will rest with the INS International Resources Chair and Treasurer, and if required, INS President.

Further details of how to apply can be found on the INS main website here. We welcome any enquiries from colleagues considering applying for funds ahead of the application, and for this please contact Professor Jonathan Evans at jonathan.evans@glasgow.ac.uk ■

## Apply for the INS Finance Committee

Have a passion for service? Interested in trying out a service position for the first time? The INS is also looking to fill two vacant three-year positions within its Finance Committee.

Eligibility: Both regular (i.e., Full) and Emeritus members of the INS can apply. To ensure geographic diversity on the Committee, preference would be given to members who are not from North America. However, all eligible members are encouraged to apply.

Responsibilities: The primary responsibility of the INS Finance Committee is to review and provide advice regarding revenue, investment, spending, and other INS fiscal matters as they arise.

The time commitment for this committee is fairly minimal. It involves one 30-minute conference call per quarter, though unique situations may arise that necessitate more frequent meetings – or meetings of slightly longer duration.

Membership on the committee does not presume (or require) that the individual have a great deal of financial expertise, though such expertise would be very welcome.

To apply: If you are interested in submitting an application please send an email to that effect to INS Treasurer Dr. Ozioma Okonkwo. Please note that 10 April 2020 is the deadline to submit all applications ■

# JINS Calls for Papers

## Special Issue: Clarifying the Complexities of Cannabis & Cognition

Krista Lisdahl, PhD, Co-Organizer, University of Wisconsin-Milwaukee
Staci Gruber, PhD, Co-Organizer, Harvard Medical School
Francesca Filbey, PhD, Co-Organizer, University of Texas-Dallas

Policy is rapidly changing in the United States, increasing access to cannabis and cannabinoid products and sparking substantial national interest in cannabis science. Cannabinoids like delta-9-tetrahydrocannabinol and cannabidiol interact with the endogenous endocannabinoid system – which plays a prominent role in developmental brain processes, neuroplasticity, and cognition.

Although evidence supports potential harmful effects associated with chronic, recreational cannabis use, especially vulnerable populations (e.g., prenatal or adolescent exposure), there are also known medicinal benefits of both THC and CBD. Still, several areas of cannabis research have generated mixed findings, suggesting that the link between cannabis and neurocognitive outcomes is rich and complex.

This special issue will focus primarily on clarifying the complexities of the impact of cannabis and cannabinoids on cognition and brain outcomes, as new areas of research aim to examine underlying mechanisms, assess potential recovery of neurocognitive function with abstinence, identify moderators of cannabis effects, and tease apart the impact of cannabinoid content, route of administration, and potency.

Investigators are invited to submit empirical papers, reviews, or meta-analyses for a special issue of *JINS* to be published in the second half of 2020. We are seeking cutting-edge data that help clarify the relationship between acute and chronic cannabis and cannabinoid exposure on neurocognitive outcomes. We are **particularly interested** in papers that address the following topics:

1. Effects of cannabis on neurocognitive outcomes in vulnerable groups (e.g., psychiatric comorbid disorders, genetic risk).
2. Recovery of function following sustained cannabis abstinence.
3. Neurocognitive effects in medical cannabis patients.
4. Whether biological sex, ethnicity, or age moderate neurocognitive effects.
5. Impact of potency, route of administration, product type, and cannabinoid content on neurocognitive outcomes.
6. Impact of co-use of cannabis and other substances.
7. Prospective, longitudinal studies addressing causality ■

**DEADLINE:**
Submit by 15 May 2020

**SUBMIT PAPERS AT:**
http://mc.manuscriptcentral.com/jins

Please note in a cover letter that your submission is in response to the special issue on *Clarifying the Complexities of Cannabis and Cognition*

# Neuropsychology in The Age of COVID

## A Message from the INS Main Office

Dear INS Colleagues:

As a global organization we are acutely aware of the challenges that INS members, and their communities, face in the context of COVID-19. Our world has changed. We must do our best to learn from these adverse events and support our patients, trainees, and colleagues who are struggling with health and financial vulnerabilities. We write now to assure you that INS remains committed to its scientific and educational mission.

Margaret O'Connor, PhD

On 2 April 2020, we will be offering a free-of-charge webinar focused on the science and practical aspects of telehealth, entitled *Teleneuropsychology (TeleNP) in Response to COVID-19: Practical Guidelines to Balancing Validity Concerns with Clinical Need.* The webinar will be moderated by Dr. Rene Stolwyk and feature Drs. Dustin Hammers, Lana Harder, Munro Cullum as guest speakers. Please see the resources section below for more information about this opportunity.

Marc Norman, PhD

We also want to alert you to the fact that we are having ongoing conversations about the mid-year meeting in Vienna. While we have not yet cancelled the meeting, we are considering a number of modifications to the current format. We will be sure to update you as soon as we have made final decisions.

In the meantime, we hope that you find this special feature of the INS Newsletter to be informative and encourage you to watch this video message from President O'Connor. We wish you all the best during this challenging time ■

Margaret O'Connor, PhD
INS President

Marc Norman, PhD
INS Executive Director

# Neuropsychology in The Age of COVID

## COVID and the Brain

Cady Block, PhD, Emory University
Kelsey C. Hewitt, PsyD, Emory University

Coronaviruses did not attract any substantial worldwide attention until the 2003 SARS (severe acute respiratory syndrome) pandemic. This was followed by the 2012 MERS (Middle East respiratory syndrome) outbreak (Wu et. al, 2020) – a different but related viral entity. Novel coronavirus 2019, also known as COVID-19, is a novel addition to the coronavirus family and only recently came to clinical attention. In keeping with the World Health Organization Guidelines established in 2015, its nomenclature follows a naming convention that omits any reference to specific geographical region, group of people, individual, or animal.

While researchers across the globe are racing to study and understand more about COVID-19, to date the infection is believed to be zoonotic in origin. In particular, a small nocturnal animal called the civet (Figure 1) is suspected to be the original reservoir before subsequent transmission to bats. The first known case is recognized as occurring within the Hubei province of China.

COVID-19 is a respiratory virus with an estimated incubation period of four days, but given what is known about other coronaviruses (e.g., MERS, SARS) is suspected to have a wider range of anywhere from 2 to 14 days (CDC, 2020). Recent searches within news and public health reports (Lauer et. al., 2020) found the median incubation period was estimated to be 5.1 days (95% CI, 4.5 to 5.8 days), and 97.5% of those who develop symptoms will do so within 11.5 days (CI, 8.2 to 15.6 days) of infection. These estimates are consistent with earlier reports in China with mean incubation periods ranging from 5.2 to 6.4 days

Figure 1. A Malabar Civet (credit: Creative Commons).

(Backer et al., 2020; Li et al., 2020; Linton et al., , 2020).

Coronaviruses largely cause respiratory and gastrointestinal tract infections (Li, 2016). The causative agent of COVID-19, severe acute respiratory syndrome coronavirus (SARS-CoV-2), spreads primarily through respiratory droplets and close contact; however, these transmission methods do not explain all cases (Cai et al., 2020). COVID-19's rate of transmission makes it more serious than earlier iterations of coronaviruses. Determining undocumented infectious rates and contagiousness is critical for the overall prevalence and pandemic of COVID-19; high rates of undocumented infection facilitated rapid dissemination of SARS-CoV-2 and – if the novel coronavirus follows previous patterns of other iterations – it will become a fifth endemic coronavirus within the human population (Li, et al., 2020). The clinical spectrum of COVID-19 varies from asymptomatic or paucisymptomatic forms to clinical conditions characterized by


2019-NCOV

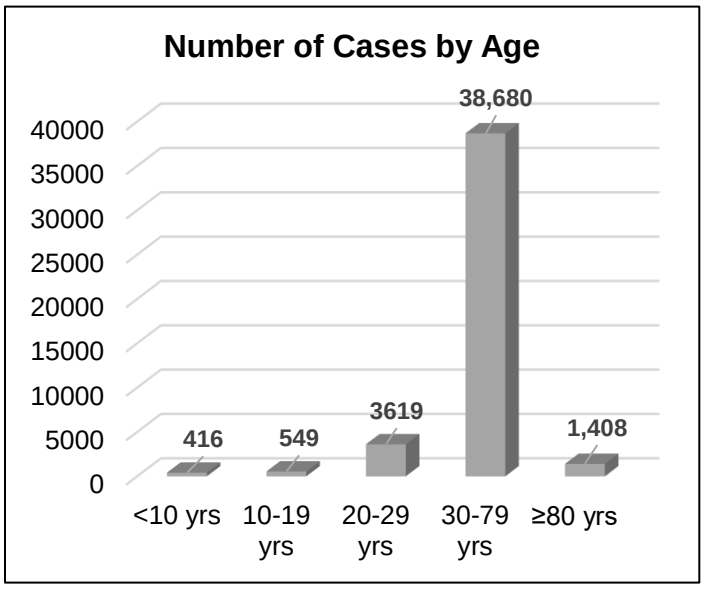



Figure 2. Number of cases by age, China (adapted from data presented by Wu & McGoogan, 2020).

respiratory failure. Initial symptomology of COVID-19 was seen in patients suffering from fever, malaise, dry cough, and dyspnea (Huang et al., 2020).

In a retrospective study of 72,314 Chinese case records with confirmed COVID-19, the majority of cases appeared to occur in patients ages 30 to 79 (87%; Wu & McGoogan, 2020). The case fatality rate hovered around 3% for adults, but this increased dramatically with age (70-79 yrs: 8% CFR; ≥80 yrs: 14.8% CFR) and particularly for individuals with critical cases (49% CFR; for a breakdown of Chinese cases by age, see Figure 2 below – adapted from Wu & McGoogan, 2020). Thus far, deaths seem concentrated among those who are older and with preexisting medical issues such as other respiratory conditions, cancer, cardiovascular disease essential hypertension, and diabetes (CDC, 2020).

Given its relatively recent introduction to the international stage, little is known yet about COVID-19; even less is known about its impact on the brain. However, there is accumulating evidence showing that respiratory viruses do have neuroinvasive potential. Influenza A, a common respiratory virus, is thought to have the capacity for CNS penetrance and subsequent altering of the hippocampus and regulation of neurotransmission (Bohmwald et al., 2018). Earlier studies on SARS and MERS patients have demonstrated the presence of viral particles in neurons (Desforges et al., 2020; Li et al., 2020).

The primary hypothesized pathway is an intranasal route to the brain via the olfactory nerves (see Figure 3); however, another potential pathway may involve a synapse-connected route to the medullary cardiorespiratory center from receptors located in the respiratory system (Andries & Pensaert, 1980; Li et al., 2013; Matsuda et al., 2004). In a cross-sectional study of 214 Chinese individuals with confirmed COVID-19, thirty-sex percent (n=78) indeed evidenced acute neurologic manifestations ranging from impaired consciousness to cerebrovascular disease; as may be expected, rates of these manifestations were substantially higher in severe cases (Mao et al., 2020).

Unfortunately, there may be unanticipated long-term implications of the COVID-19 pandemic. Once the central nervous system is reached coronaviruses may conceal themselves from immune recognition, prohibiting complete clearance of the virus after the acute phase has abated. Indeed, there have been still-detectable levels of COVID-19 in many patients following the

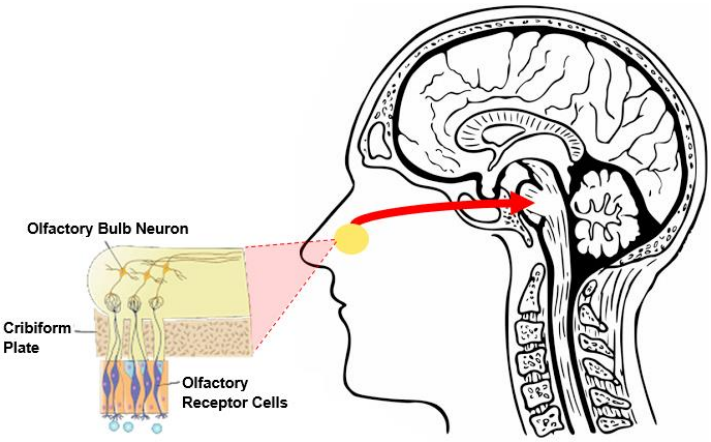



Figure 3. Diagram of the viral olfactory pathway to the central nervous system.

convalescent period. There is an already existing body of literature highlighting the latent potential of viruses such as influenza A (encephalitis, Reye's syndrome, Guillain-Barré); measles (acute disseminated encephalomyelitis), enterovirus (flaccid paralysis, meningitis, encephalitis), polyoma JC virus (progressive multifocal leukoencephalopathy), t-lymphotropic virus (spastic paraparesis/myelopathy) (Desforges et al., 2020). Particularly relevant to neuropsychologists may be herpes and influenza virus, which have been associated with a range of degenerative conditions such as Alzheimer's disease, Parkinson's disease, and multiple sclerosis (Desforges et al., 2020).

As our understanding of COVID-19 grows, it too will likely join the ranks of viruses recognized as potential causative/contributory agents to the emergence of neurologic diseases across the lifespan. For now, neuropsychology has a potentially important role to play in the global inquiry into the COVID-19 pandemic – including deepening our understanding of its potential cognitive sequelae as well as the coping and adjustment of both individual and society ■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# Neuropsychology in The Age of COVID

## The Impact of COVID on INS Members Around the Globe

Jonathan Evans, PhD, University of Glasgow

COVID-19 is affecting everyone, right across the world. It is not surprising, then, that practice, research, and teaching of neuropsychology have been substantially disrupted. The INS Global Engagement Committee (GEC) is concerned with supporting development of neuropsychology around the world, and particularly in countries where neuropsychology is less well developed. Members of the GEC from across the world have been discussing how practice, research and teaching are being affected, the issues that members are dealing with, and some of the creative solutions being implemented. Here are a few examples from GEC members that reflect a little of what is happening around the world.

### Impact on Income

COVID-19 and the measures being implemented by governments to try to reduce the infection rate have dramatically curtailed neuropsychology practice. The pace of change has been fast, with advice changing almost daily. Right now, across most of the world people must stay at home unless going out to buy groceries or medicines, to take exercise, or to do essential work that cannot be done at home. These measures are critical to limiting the spread of the virus, but inevitably are having substantial impact.

Those working in private practice and in healthcare systems that involve remuneration per patient contact are suffering a dramatic loss of income. This is happening in places where incomes are already modest and psychologists are often supporting both themselves and interns/assistants. For example, Dr. Aparna Dutt, working in Kolkata, India notes that patient in this

Watch the brief video by Dr. Evans by clicking here or on the play icon above.

country typically pay for each neuropsychology consultation session, but with clinics cancelled there is no income. In addition, many patients are also experiencing loss of income as a result of the wider economic impact of COVID-19, so may not prioritize a neuropsychological evaluation. Many psychologists around the world similarly depend on individual consultations for their income, and as consultations have stopped, income is zero.

### Impact on Mental Health

For neuropsychologists working in countries with government funded national health systems employment/income may be more secure but for many people job roles have changed rapidly. Many outpatient assessment and rehabilitation services are being temporarily suspended and psychologists are being redeployed to support mental health and wellbeing services, including supporting the mental wellbeing of staff treating patients with COVID 19.

In Taiwan, Professor Nai Wen Guo, the President of Association of Taiwan Clinical Psychologists and also the President of the Taiwan Association

*Photo credit:* Bill Oxford | *Unsplash*

of Neuropsychological Developmental and Mental Rehabilitation, is working with the government's Central Epidemic Command Center (CECC). Prof Guo is working to promote mental health awareness and the importance of maintaining emotional health and well-being during the COVID 19 crisis. She and her team have created a set of brochures titled "Go through the storm of COVID-19" for children and older adults in four language versions including Chinese, English, Indonesian and Vietnamese. The resources are available nationwide on the wellbeing resources platform. In addition, they are distributing the printed brochure to all government units.

In Brazil, Dr. Leandro Malloy-Diniz has worked with interdisciplinary colleagues to produce a paper in the Brazilian Journal of Psychiatry on the wider psychological and mental health issues associated with COVID-19, discussing the public health challenges of changing, or nudging, the behaviour of populations of people who need to distance themselves from each other; the impact of social isolation on the general population and particularly those with existing mental health difficulties; and the importance of supporting the mental health of health workers. The article is freely available online here.

Dr. Natalia Ojeda Del Pozo is in the Basque region of Spain. At the time of writing Spain has 80,000 people infected and has suffered 6,500 deaths, in a country of 45 million people, and of course that will only increase tomorrow. Spain has a good quality publically funded health system, but the intensive care units are overwhelmed and lacking in critical personal protective equipment (PPE). Neuropsychological assessment and treatment in-person are not happening, and the priority has shifted to online psychological therapy. Natalia reported that the situation is frightening and stressful, but a positive part of the situation is that people are developing a greater sense of community, and networking more. As in many other countries, health professionals are honored at 8pm everyday by people applauding from their windows for two to three minutes. People are also getting together and organizing to support each other, and being very creative in finding solutions to problems. Natalia mentioned a service being provided by the Professional Association of Psychology in Bizkaia. Up to 86 clinical psychologists have been recruited. These are mainly psychologists whose only income comes from private practice. They are providing online support to anyone who contacts the association. The service is free of charge to users and the professionals are being paid by the Society which means that as well as a service to the community it is also a way to help professionals to guarantee a minimum income during this crisis period.

## Impact on Teleneuropsychology

The topic on the minds of neuropsychologists all over the world just now is whether it is feasible to use technology to work remotely with patients. Colleagues in every country are grappling with this question, consulting the evidence and thinking through the logistics. Many people will by now have read the work of Dr Munro Cullum, and those who attended the workshop of Dr Rene Stolwyk and Dr Dustin Hammers on the practice of rural health and teleneuropsychology at the INS meeting in Denver just a few weeks ago will be feeling very pleased they went.

In GEC discussions, Dr. Alberto Fernandez (Argentina), Dr. Alia Ammar (United Arab Emirates), Professor Skye McDonald (Australia), Dr. Natalia Ojeda del Pozo (Spain), Dr. Aparna Dutt (India), Dr. Lingani Mbakile-Mahlanz (Botswana), Dr. Leandro Malloy-Diniz (Brazil), Dr Taina Nybo (Finland) and Dr. Elizabeth Kera (US and Croatia) all mentioned that the question of how best to use teleneuropsychology is being explored in their countries. Clearly this is a topic that is exercising the whole neuropsychology community just now. As Dr. Alia Ammar noted, neuropsychologists may be worried about the

Validity of assessments if they deviate from standard practice, but of course interpretations are often having to take account of contextual information – she notes that in the US she used to have to take account of patients being distracted by helicopters landing at the adjacent trauma heliport, and since moving to the United Arab Emirates has to take account of the adhan, the Muslim call to prayer coming from loudspeakers at adjacent mosques.

In the United States, Drs. Munro Cullum and Ken Podell participated in a webcast moderated by Drs. Yakeel Quiroz, Cady Block and Nick Puente. Dr. Michelle Prosje developed a video on mental health effects of COVID. In Brazil, Dr. Malloy-Diniz discussed online assessment resources as part of a 'Saturday Night Live' webinar attended by over 800 participants.

In the United Kingdom, the British Psychological Society Division of Neuropsychology Professional Standards Unit is developing a set of guidelines for remote assessment, with particular discussion of the issues associated with the assessment of children, people with intellectual disability and older adults including those with dementia. Similar guidelines have been, or in the process of, being put together in other countries.

In addition to remote neuropsychological assessment, people are trying to work out how to provide neuropsychological rehabilitation remotely. In this area the work from colleagues in Australia is particularly important. Rene Stolwyk, Dana Wong, Jennie Ponsford and their colleagues in Melbourne have been using telehealth approaches to cognitive rehabilitation. The Australian Centre for Research Excellence in Aphasia, at La Trobe University in Melbourne has developed a website aimed at helping people with aphasia during COVID-19. Also, Professor Skye McDonald's team at the University of New South Wales has developed set of resources to help families coping with a family member with challenging behaviour. This is a set of seven modules that families can work through and is freely available from Professor McDonald's webpages.

In Spain, the Neuropsychological Society in Madrid has created a webpage to provide advice to patients and families and some companies are offering their online cognitive rehabilitation services free of charge, so patients can access from home. Patient associations are organising to offer recommendations, relevant manuals and more informal tips. For example, children diagnosed with Autism and other neurodevelopmental disorders are wearing a big blue ribbon or blue T shirt so that they can go outside their houses and walk for a while to relieve distress and help the children deal with the isolation.

In Finland, Dr. Taina Nybo reported that at Helsinki University Hospital, which is the largest hospital in Finland and largest neuropsychology unit (about 40 neuropsychologists) they have been working to improve remote contacts with patients. All rehabilitation patients are offered a remote contact and the team is developing digital neuropsychological rehabilitation pathways for people with mild-moderate acquired brain injury.

These are just a few examples highlighted by members of the GEC, and around the world there are many other positive and creative solutions to our current challenges associated with neuropsychology practice. There is a plan to offer an update on worldwide telehealth initiatives through INS sponsored webinars in the next few weeks. Stay tuned!

## Impact on Research

When it comes to neuropsychology research around the world, most is suspended. For example, in the UK, the National Health Service Health Boards and Trusts asked researchers to

stop recruitment of new participants in mid-March, and only do follow up visits when they could be done remotely via phone or video link. This was clearly important as way of reducing risk to participants and research staff, but is going to have a huge impact on the ability to complete research projects within the original timescales. Researchers everywhere are waiting to see whether funding bodies will support extensions to studies with additional funding that will allow studies to be completed when the situation eases.

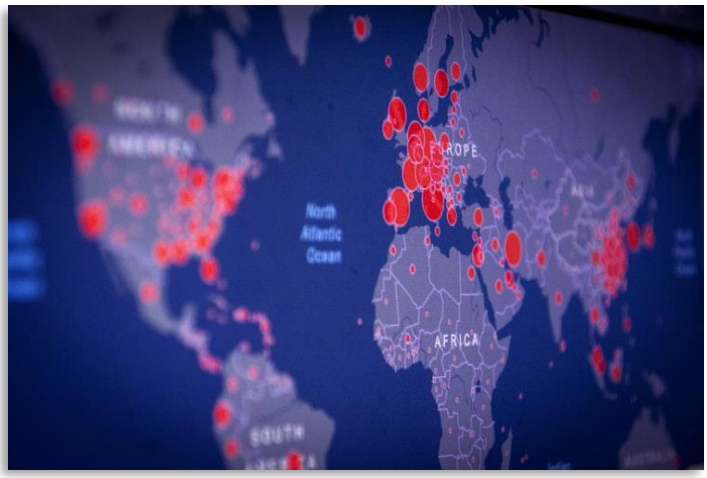
There are also important questions relating to the neuroscience and neuropsychology of COVID 19 that will need to be addressed to better understand the potential long-term effects of the disease for some patients.

## Impact on Communication

For neuropsychologists involved in training, life now is spent on Zoom, or similar online meeting applications. In Universities all over the world the last few weeks have involved a process of switching all teaching, supervision and assessment online. For programs already doing a lot of online distance learning, this may not have been much of a change, but for others used to doing these things in-person, it is been a rapid adjustment. Clearly there are implications for neuropsychology trainees whose opportunity for patient contact has been severely curtailed for the time being. Again, training programs are having to rapidly adjust to ensure that training can continue and that standards are maintained.

## Summary

The most striking thing in the discussions amongst members of the Global Engagement Committee has been the consistency of issues




that neuropsychologists around the world have been facing. COVID-19 is impacting on the lives of everyone. But neuropsychologists are responding positively, using their broader clinical skills to support the mental health and wellbeing needs of our patients, healthcare worker and the wider population, as well as working out new ways to offer assessment and rehabilitation to people with cognitive, emotional and behavioural difficulties. This pandemic perhaps provides us as members of a neuropsychology community with a good opportunity to support each other, and particularly to support those working in counties where neuropsychology is less well resourced ■

The mission of the INS Global Engagement Committee (GEC) is to support development of neuropsychology throughout the world. Our particular focus is on regions of the world where neuropsychology may be less well developed, including low-income and middle-income countries. For information on the INS GEC, please visit the INS website:

https://www.the-ins-org/global-engagement

# Neuropsychology in The Age of COVID

## INS Sponsors Telehealth Webinar on COVID

INS would like to highlight a number of free and web-based resources meant to assist our members in clinical, research, and teaching endeavors. For additional resources, please visit the COVID webpage on the INS main website.

### Telehealth Webinar

On 2 April 2020, the INS will be hosting a free webinar entitled *Teleneuropsychology (TeleNP) in Response to COVID-19: Practical Guidelines to Balancing Validity Concerns with Clinical Need*. Click here to register online. The webinar will be held 16:00-18:00 EDT (21:00-23:00 BST, Friday, April 3rd 07:00-0900 AEDT).

In response to the Coronavirus (COVID-19) outbreak, there is a pressing need for neuropsychology to apply tele-communication technologies to deliver services to patients unable to attend in-person appointments. Encouragingly, new evidence is emerging to support development of novel models of neuropsychology service delivery remotely. Using North America and Australia as examples, this webinar will illustrate the many opportunities and challenges of Teleneuropsychology (TeleNP) assessment, including focusing on ethical/legal issues during service provision as well as addressing practical needs for providers attempting service delivery remotely.

By the end of this webinar, attendees will be able to: Understand the evidence base supporting TeleNP procedures as well as the strengths and limitations of different models, apply their knowledge of models of TeleNP and evaluate potential feasibility within their own clinical settings, and understand key legal and ethical considerations when providing TeleNP services.

**Moderator:**
Rene Stolwyk, DPsych
Monash University
Melbourne, Australia

**Speaker:**
Dustin Hammers, PhD, ABPP
University of Utah
Salt Lake City, UT, USA

**Speaker:**
Lana Harder, PhD, ABPP
Children's Health
Dallas, TX, USA

**Speaker:**
Munro Cullum, PhD, ABPP
Univ of Texas Southwestern
Dallas, TX, USA

# From the INS Video Library

## Interviews with Linas Bieliauskas and Jennie Ponsford

Linas Bieliauskas, PhD, ABPP, is one of this month's INS Video Library features. Dr. Bieliauskas completed his doctorate in psychology at Ohio University in 1976. Clinically, Dr. Bieliauskas has served for many years as a Professor of Psychiatry at the University of Michigan – Ann Arbor but also holds an adjunct appointment in the Department of Psychology at Windsor University. His research interests include the cognitive effects of abnormal aging, and the psychometric characteristics of neuropsychological measures. He serves as Senior Editor of the journal *Aging, Neuropsychology, and Cognition.*

Dr Bieliauskas has a long history of professional service, including serving as INS President (1992) and APA's Society for Clinical Neuropsychology (Division 40). In addition to a number of other honors, he was named a recipient of the INS Distinguished Career Award by the INS in 2016 ■

You can watch Dr. Bieliauskas' interview, led by Dr. Margaret O'Connor in the members section of the INS main website.

Jennie Ponsford, PhD, is also one of this month's features. Since 2000, she has served as Director of the Monash-Epworth Rehabilitation Research Center. She is a Chief Investigator on the National Health and Medical Research Council-funded Centre of Research Excellence in TBI. She is on the editorial board of five major journals, including *JINS*. She has published over 270 peer-reviewed articles and book chapters, as well as two texts on brain injury management.

Dr. Ponsford is a recipient of multiple impressive honors including the Robert L Moody Prize for Distinguished Initiatives in Brain Injury Research and Rehabilitation. She is a past president of the INS (2013), Australian Society for the Study of Brain Impairment, and International Association for the Study of Traumatic Brain Injury ■

You can watch Dr. Ponsford's interview, led by Dr. Roy Kessels, in the members section of the INS main website.

# Listen In: NavNeuro Podcast

## The NavNeuro Team Talks Teleneuropsychology with Munro Cullum

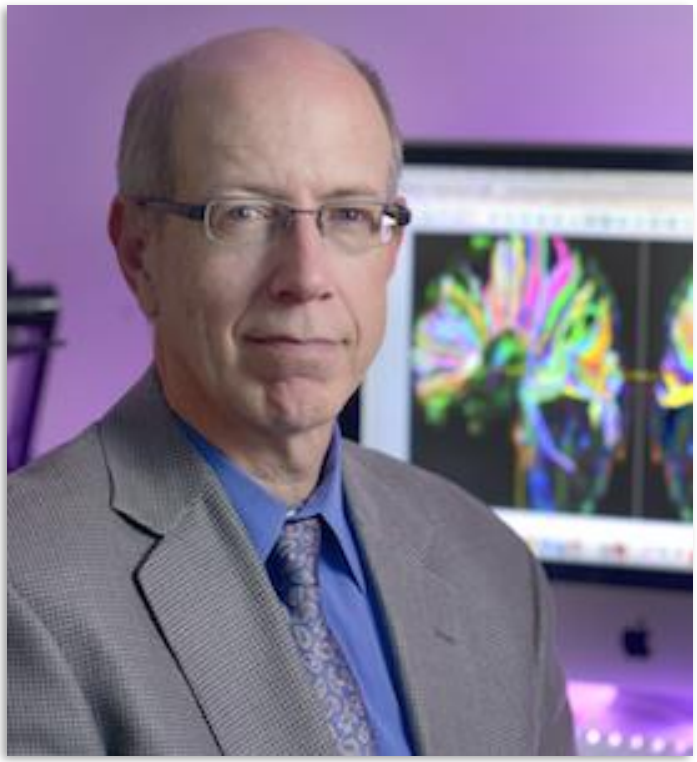
Leslie Gaynor, MS, Co-Production Coordinator
John Bellone, PhD, & Ryan Van Patten, PhD, Creators and Co-Hosts

*Navigating Neuropsychology (NavNeuro) is a podcast that includes interviews with neuropsychology experts about cutting-edge scientific findings, debates within the field, and the latest in clinical neuropsychological assessment and intervention. You can listen to Navigating Neuropsychology episodes online, or anywhere that you listen to podcasts. Be sure to follow us on Twitter (@NavNeuro) and tell us what you think!*

As COVID-19 has spread across the globe, reaching pandemic status by early March, it has become clear that nothing can be "business as usual." In an attempt to reduce unnecessary disease spread, a majority of the world has transitioned to working from home, posing new challenges for industries built upon the provision of face-to-face services. With regards to clinical neuropsychology, telemedicine approaches to assessment had not been universally adopted prior to the COVID-19 pandemic, although these methods have been in development for about fifteen years. Now, in the midst of a changing world, we are rushing to adapt.

On Wednesday, March 25th, Drs. John Bellone and Ryan Van Patten, co-hosts and creators of NavNeuro, released a special episode with Munro Cullum, PhD, ABPP, about tele-neuropsychology. Dr. Cullum is the Pam Blumenthal Distinguished Professor in Clinical Psychology and Director of the Neuropsychology program at the University of Texas Southwestern (UTSW). He also serves as the Chief of the Division of Psychology and Clinical Core Leader at the UTSW Alzheimer's Disease Center, and he is the past president of SCN and NAN. His research interests include test development and teleneuropsychology.

As a pioneer of telemedicine applications of neuropsychology, Dr. Cullum can speak to current research as well as factors to consider when implementing teleneuropsychology as part of typical patient care. Overall, the corpus of his research suggests that this method of assessment is largely comparable to face-to-face evaluations, and findings likely generalize across many clinical populations. However, there are multiple gaps in the research literature (e.g., pediatric populations, specific cognitive tests, testing in the patient's home environment),



Munro Cullum, PhD, ABPP

necessitating further investigation. Moreover, during the interview, Dr. Cullum spoke to new challenges neuropsychologists face when implementing teleneuropsychology, including building rapport, maintaining test security, obtaining informed consent, ensuring patient privacy, and deciding how and when to break rules of standardized administration.

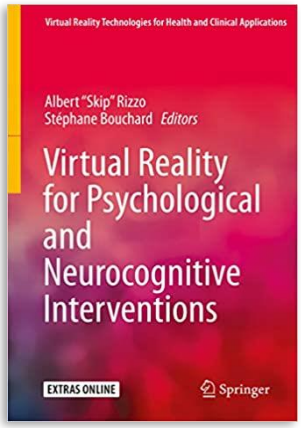
In the face of rapidly changing circumstances, Dr. Cullum assured listeners that the transition to telemedicine should not be approached with fear. "Be aware," he told John and Ryan, "but don't be afraid to try the technology." Dr. Cullum then spoke to the importance of taking measured steps to implement this new evaluation modality, challenging neuropsychologists to practice using novel equipment and assessment tools before going "live."

Adapting to working from home and providing telemedicine services can also feel like a jolting departure from the familiar, and some may worry that the provision of face-to-face assessment services will become a thing of the past. Dr. Cullum does not feel this way. Regarding the fear of adapting to teleneuropsychology, Dr. Cullum said, "Our practices will get back to normal. It may change some things, it may open the doors for wider acceptance and wider reimbursement opportunities for telemedicine-based assessments, but I don't think it will change the fundamental practice of neuropsychology" ■

# What We're Reading

## New & Interesting Books

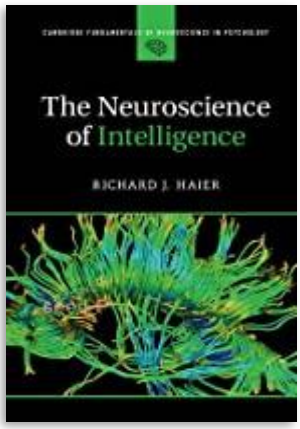
*The INS team is always on the lookout for new and interesting books that may be of interest to our membership. A few new and noteworthy releases are listed below. Outside of the INS Dictionary, please note that inclusion in the newsletter* does not *constitute an official endorsement of any of the following publications. Descriptions of these other books are taken from marketing material.*




### Virtual Reality for Psychological and Neurocognitive Interventions

Albert "Skip" Rizzo, PhD, & Stéphane Bouchard
© 2019, Springer Press
Weblink

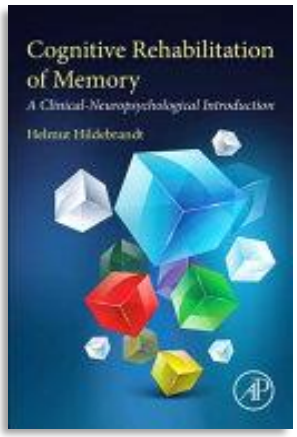
Dr. Rizzo is a clinical psychologist, professor, and Director of Medical VR at the University of Southern California, and Dr. Bouchard is a scientist-practitioner at the Université du Québec en Outaouais. Their text reviews virtual reality in both its current therapeutic forms and its potential to transform treatment for a wide range of conditions like anxiety disorders, developmental and learning disorders, brain injury, and more.




### The Neuroscience of Intelligence

Richard Haier, PhD
© 2016, Cambridge
Weblink

Dr. Haier is a Professor Emeritus of Psychology at the University of California-Irvine. In *The Neuroscience of Intelligence*, he reviews evidence of the relationships between intelligence, genetics, and structural and functional integrity of the brain. The text also explores potential controversies surrounding neuro-poverty, neuro-socioeconomic status, and the morality of enhancing intelligence for everyone.




### Cognitive Rehabilitation of Memory: A Clinical Neuropsychological Introduction

Helmut Hildebrandt, PhD
© 2019, Academic Press
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Dr. Hildebrandt is a neuropsychologist at the Hospital Bremen-Ost in Germany. His *Cognitive Rehabilitation of Memory* reviews evidence-based memory research, defines guidelines on how to assess patients and set treatment goals, and highlights best practices for creating individualized rehabilitation programs.

# Clinical Case

## Neuropsychological Evaluation of an Adult with Chiari Malformation Type I

Angeline Witbeck, BA, Illinois School of Professional Psychology; Chicago, IL, USA
Alyussa Fredrick, MA, The Chicago School of Professional Psychology; Chicago, IL, USA
Robert Ida, PsyD, NeuroCare & Family Services; Wheaton, IL, USA

### Case Highlights

- The symptomology is often unique to each case and can be difficult to determine what is secondary to the Chiari malformation.
- Due to common psychiatric comorbidities (depression and anxiety), when additional symptoms are present, a medical based evaluation is appropriate to diagnose underlying pathology.
- Neuropsychological evaluations for patients with Chiari malformation are helpful in assessing the cognitive and emotional sequalae to inform guidance for treatment.

Chiari malformation is a neurological condition that is diagnosed when part of the cerebellum extends below the foramen magnum by at least 3mm (Garcia et al., 2018). Chiari malformation type I (CM-I) is the most common form. CM-I reportedly occurs in 1 in 1,000-5,000 births (Urbizu et al., 2014), but prevalence may be higher because of a lack of symptoms in many individuals (Passias et al., 2018).

Diagnosis of CM-I typically occurs in adolescence or adulthood, though many patients will not experience symptoms until adulthood. In CM-I, there is a herniation of the cerebellar tonsils and part of the medulla, resulting in limited space within the posterior fossa. CM-I is often comorbid with hydrocephalus, spina bifida, syringomyelia, tethered cord syndrome and spinal curvature (Rajpal et al., 2018).

CM-I symptoms are variable and may include headache, neck pain, hearing or balance problems, muscle weakness or numbness, dizziness, vomiting, difficulty swallowing or speaking, tinnitus, and problems with hand coordination and fine motor skills (George & Higgenbotham, 2011).

Outside of physical symptoms, studies suggest that individuals with CM-I score lower on neuropsychological measures of executive functioning, verbal fluency, spatial cognition, language, verbal memory and processing speed (Garcia et al., 2018), and have anxious or depressive symptomatology (Klein et al., 2014).

Treatment for CM-I is dependent on the severity of symptoms and distress experienced by each patient. Each case of CM-I is unique and the degree to which the tonsils extend are not directly associated with worsened symptoms. Non-surgical interventions to reduce symptoms are often tried first and may include physical therapy, therapeutic injections, or anti-inflammatory medications.

In the case of severe symptoms, surgical interventions are warranted. The most common intervention for CM-I is posterior fossa decompression surgery (Urbizu et al., 2017).

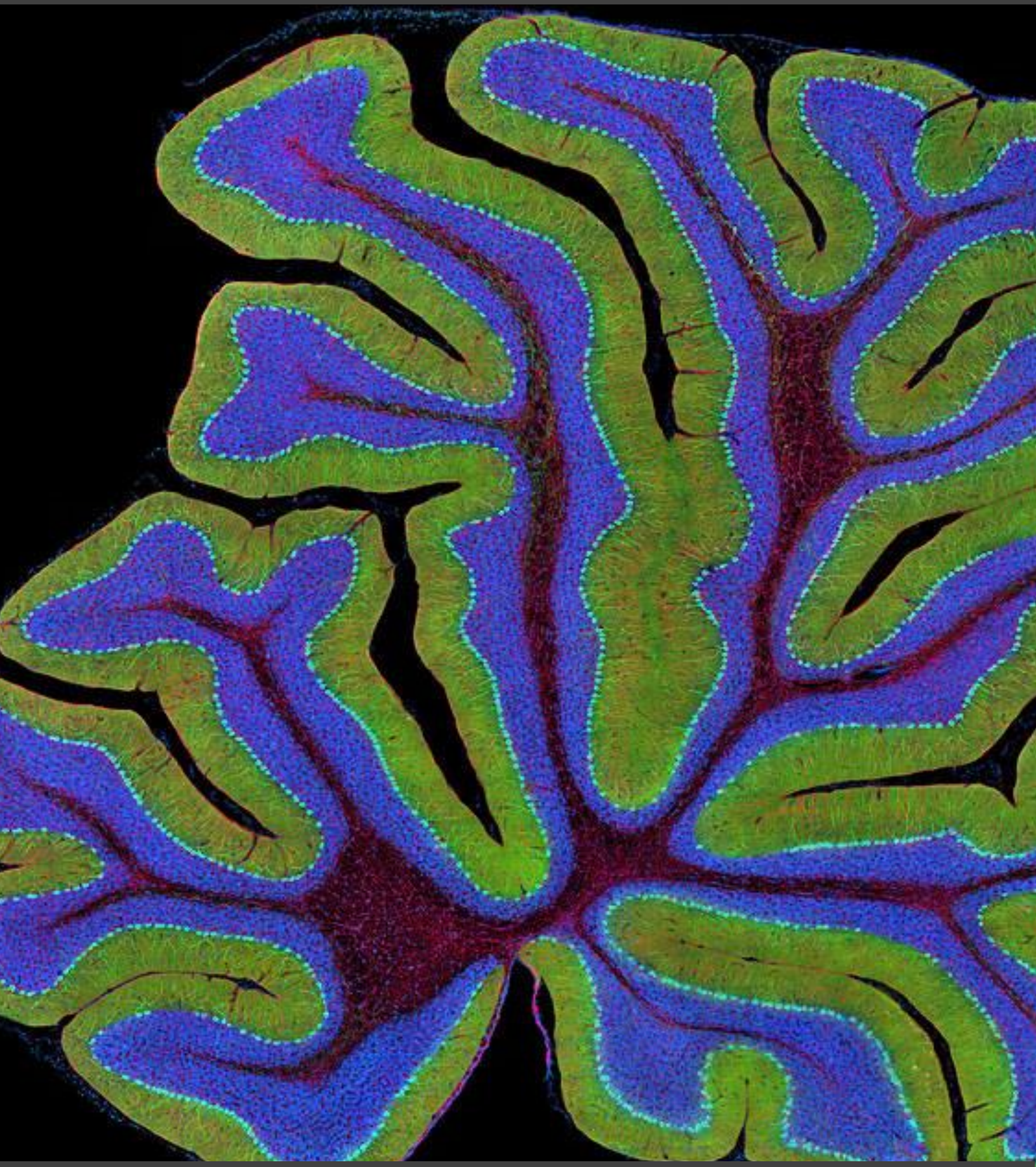

*Photo credit:* Cerebellum by National Institutes of Health | *Creative Commons*

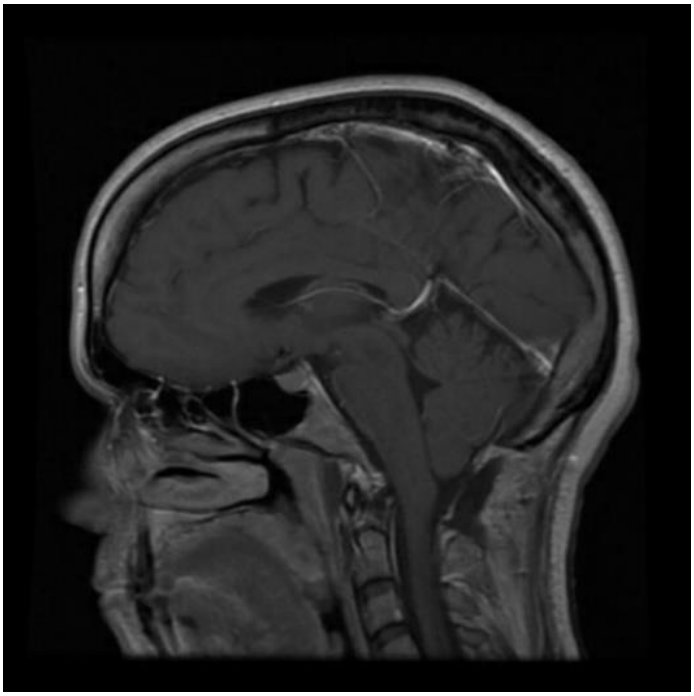

Figure 1. The patient's MRI revealed a 6mm cerebellar tonsillar ectopia suggesting CM-I.

## Case Background

The patient was a 41-year-old, right-handed, Caucasian woman with a master's degree in education, who was referred by her neurologist for a neuropsychological evaluation due to concerns related to her cognitive and emotional functioning secondary to CM-I.

The patient's medical history was remarkable for ankylosing spondylitis (in remission), anxiety, depression, and asthma, as well as her recent CM-I diagnosis. The patient reported experiencing a "head rush feeling," pressure in her head, dizziness, and headaches. A head CT revealed the cerebellar tonsils to be low-lying and in configuration favoring CM-I versus cerebellar ectopia. An MRI of the brain revealed a 6mm cerebellar tonsillar ectopia suggesting CM-I (see Figure 1 above). Medications at the time of evaluation included Trazodone, escitalopram, Xanax, venlafaxine, and Ritalin.

The patient was employed as an elementary school teacher but was making preparation to transition into a role as a math and reading specialist due to difficulties managing a full classroom. She lived with her husband and two children. She reported having supportive relationships at home with her husband, but her current cognitive functioning was described as a source of conflict within their marriage, which adds to her stress.

## Current Functioning

She reported challenges with her cognitive skills, particularly memory that began four years prior to the evaluation which progressively worsened over time. The patient described difficulties remembering daily tasks she was planning on completing, such as putting laundry in the dryer after her husband asked her to. She also endorsed forgetfulness such as losing credit cards, her phone, money, and keys. Her forgetfulness reportedly leads to conflict in her marriage as she indicated she asks her husband the same questions multiple times because she did not remember asking him or what he answered. No difficulties with long term memory were noted. The patient described difficulties with concentration, noting that her mind wanders when trying to focus, resulting in mistakes at work and starting several tasks without working on them to completion. These challenges also were said to affect her language skills as she described her thoughts to wander in conversation and will forget what she was saying or what was currently being said. Multistep tasks were also said to be difficult as she will miss steps in cooking and struggles to stay organized at work.

Psychologically, the patient reported periodic experiences of depression throughout her life but expressed more significant challenges with depression and anxiety coinciding with her cognitive challenges in the last four years. She reported she started using alcohol in increasing amounts following after her declining work performance. The patient was hospitalized

voluntarily for alcohol use, anxiety, and depression and subsequently completed a partial hospitalization program where she was able to detox and maintain sobriety for two months prior to her evaluation. Nonetheless, due to ongoing struggles with anxiety and depression as well as ongoing physical symptoms, her primary care physician referred her for a neurological consult which led to the diagnosis of CM-I.

Related to behavioral observations, the patient had difficulties with comprehension on certain tasks and tried to make conversation with the examiner appearing anxious and requiring redirection. She appeared motivated to perform well but reported that her head hurt after she completed difficult tasks. No unusual or bizarre behaviors were observed other than shakiness in her hands during tasks that involved the use of her hands, which was reportedly due to her medication. Overall, the results of this evaluation are believed to provide a valid assessment of the patient's current functioning.

## Neuropsychological Evaluation Results

Intellectual assessment placed the patient in the low average range of intellectual functioning, which is slightly lower than her estimated average level of premorbid functioning. The patient displayed low average verbal comprehension abilities on tasks of verbal mediation and performed in the average range for perceptual reasoning on those dependent on visual motor integration and nonverbal abstract reasoning while assessing her Full Scale IQ.

On neuropsychological measures, the patient's performance significantly varied. Areas of impairment were noted in verbal memory of unstructured information, verbal memory of structured information, divided visual attention, and fine motor dexterity of her dominant right hand. Her performance on tests of memory gave evidence for her difficulty encoding information. Mild to moderate challenges were exhibited in visual memory, auditory attention and working memory, sustained visual attention, cognitive processing speed, verbal response inhibition, semantic fluency, visual perception and discrimination, and visual planning and organization. The patient shows notable challenges with tasks of executive functioning, which is consistent with her reported difficulties.

Overwise, the patient performed in the average range on tasks of confrontation naming and verbal fluency, as well as, fine motor dexterity of her non-dominant hand (see Table 1 below).

## Impressions

Empirical studies have noted variable results in patients with CM-I ranging from a general cognitive decline to notable impact on executive functioning, attention, working memory, and visuospatial/perceptual abilities. Current test results indicated particular difficulties with the encoding of verbal memory, executive functioning (divided visual attention and verbal response inhibition), auditory attention and working memory, sustained visual attention, and visual perception. Additional areas of weakness included semantic fluency and cognitive processing speed.

Given the heterogeneity of findings in the literature, it is difficult to determine the magnitude of impact CM-I alone was having on her cognitive functioning given her history of mood instability. Nonetheless, it was apparent that the patient was evidencing cognitive deficits in several areas that would be expected with those experiencing CM-I which are likely impacting her day-to-day and occupational functioning.

In addition, the patient evidenced challenges with anxiety and depression. Those with CM-I have been shown to experience greater likelihood

Table 1. Neuropsychological Data

| Intellectual Functioning | Score | Range |
|---|---|---|
| WASI-II VCI | 85 SS | Low Average |
| WASI-II PRI | 91 SS | Average |
| WASI-II FSIQ | 86 SS | Low Average |
| **Academic Ability** | **Score** | **Range** |
| WRAT-4 Word Reading | 97 SS | Average |
| **Learning & Memory** | **Score** | **Range** |
| California Verbal Learning Test II | | |
| Trial 1 | -1.50 z | Borderline |
| Trial 2 | -2.00 z | Impaired |
| Trial 3 | -2.00 z | Impaired |
| Trial 4 | -2.00 z | Impaired |
| Trial 5 | -1.00 z | Low Average |
| Short Delay Free Recall | -3.00 z | Impaired |
| Long Delay Free Recall | -3.50 z | Impaired |
| Recognition Discriminability | -2.50 z | Impaired |
| Forced Choice Recognition | 16/16 raw | Within Normal Limits |
| Wechsler Memory Scale IV | | |
| Logical Memory I | 2 ss | Impaired |
| Logical Memory II | 3 ss | Impaired |
| Recognition | ≤ 2 % | Impaired |
| Brief Visuospatial Memory Test-Revised | | |
| Trial 1 | 38 T | Low Average |
| Trial 2 | 55 T | Average |
| Trial 3 | 56 T | Average |
| Total Recall | 49 T | Average |
| Learning | 69 T | Superior |
| Delayed Recall | 52 T | Average |
| Recog. Discrimination Index | 11 – 16 % | Low Average |
| **Speech & Language** | **Score** | **Range** |
| Boston Naming Test | 56/60 raw | Average |
| COWAT Fluency (FAS) | 41 raw | Average |
| Animal Fluency | 14 raw | Borderline |
| **Visuospatial & Constructional** | **Score** | **Range** |
| Judgment of Line Orientation | | |
| Form – H | 19/30 raw | Low Average |
| Rey-Osterrieth Complex Figure Test | | |
| Copy Trial | 11 – 16 % | Low Average |
| **Motor Functioning** | **Score** | **Range** |
| Grooved Pegboard Test | | |
| Dominant Hand (right) | 81 sec (0 drops) | Impaired |
| Non-dominant Hand (left) | 69 sec (1 drop) | Average |

of developing depression and subsequent anxiety. It was encouraging that she had participated in treatment for the last four years and it appeared that she demonstrated improvement following her hospitalization.

## Recommendations

Consultation with her neurosurgeon regarding the risks and benefits of decompression surgery was recommended given the degree of

Table 1. Neuropsychological Data (continued)

| Higher Cortical Functioning | Score | Range |
|---|---|---|
| Trail Making Test | | |
| Part A | 32 sec (0 errors) | Average |
| Part B | 133 sec (0 errors) | Impaired |
| Brief Test of Attention (BTA) | 10 – 24 % | Low Average |
| Conners Continuous Performance Test (3rd) | | |
| d' | 60 T | Elevated |
| Omissions | 49 T | Average |
| Commissions | 64 T | Elevated |
| Perseverations | 46 T | Average |
| HRT | 49 T | Average |
| HRT SD | 57 T | High Average |
| Variability | 50 T | Average |
| HRT Block Change | 56 T | High Average |
| HRT ISI Change | 53 T | Average |
| Symbol Digit Modalities Test | | |
| Written | 43 raw | Low Average |
| Oral | 49 raw | Low Average |
| The Delis-Kaplan Executive Function System (D-KEFS) (ss) | | |
| Color Naming | 9 | Average |
| Word Reading | 12 | Average |
| Inhibition | 7 | Low Average |
| Inhibition/Switching | 9 | Average |
| Tower | 8 | Average |

challenges she was demonstrating on current assessment. If surgical intervention was performed, post-decompression testing would be highly beneficial to determine the impact on her cognitive functioning at present to assist in treatment planning.

Regarding her current medication regimen, use of stimulant medication appeared appropriate, but the patient may not have needed multiple antidepressant medications. Thus, consultation with her prescribing physician regarding potentially titrating off of one of such medications was recommended, especially while being monitored by a therapist if a decline in function were to arise.

It was also recommended that the patient continued to focus on improving coping skills and emotional management techniques in individual therapy. Learning new skills would likely improve her day-to-day management of stressors and improve her sleep. Maintenance of sobriety was also highly stressed.

## Commentary

This case highlights the unique clinical presentation of CM-I. The symptomology of this patient was consistent with the literature examining the neurocognitive profile of CM-I; however, the extensive psychological history made it difficult to determine what was secondary to the malformation alone, given prior experiences of depression prior to the onset of both cognitive and physical symptoms. The symptomology can be different for each patient depending on the extent of the tonsillar ectopia.

This case also highlights the necessity for neuropsychological evaluations for patients with CM-I in order to provide a comprehensive understanding of their overall functioning to guide treatment, both medically as well as psychologically ■


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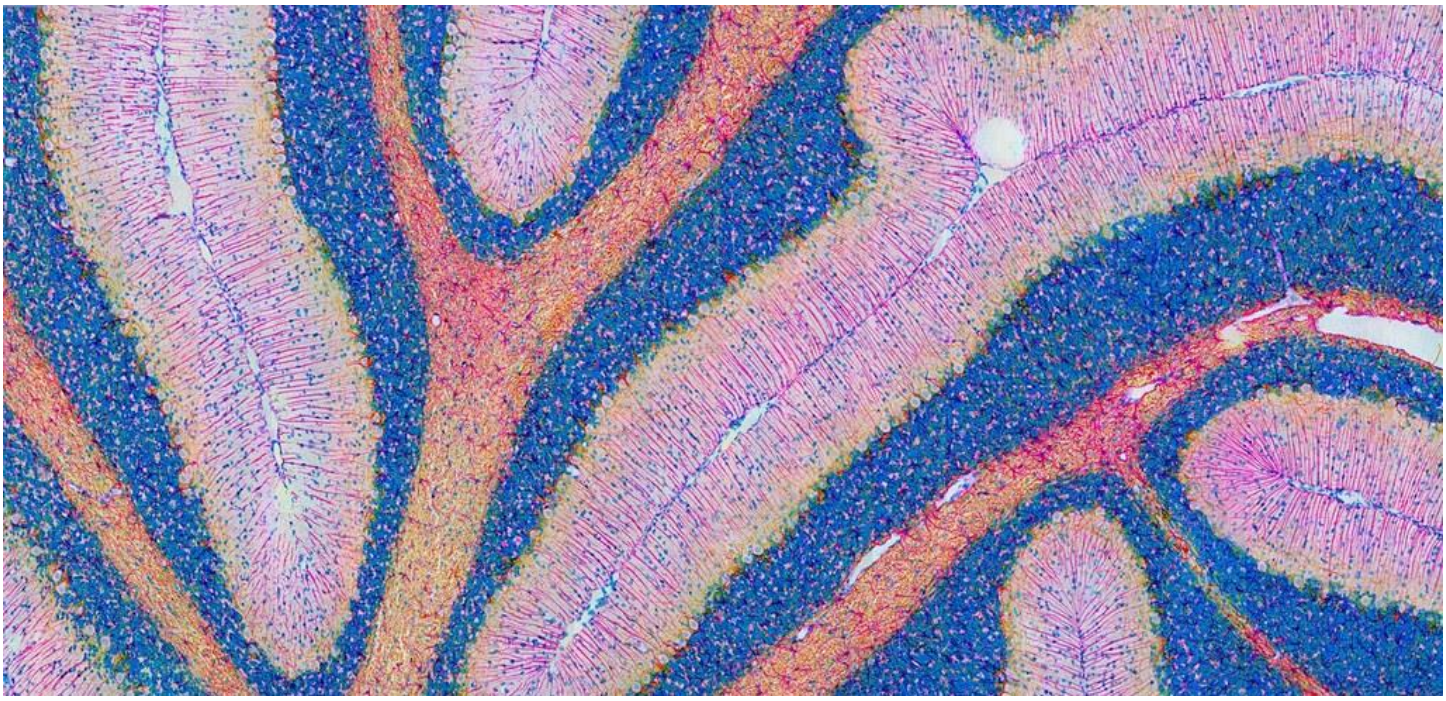


# Science in Action

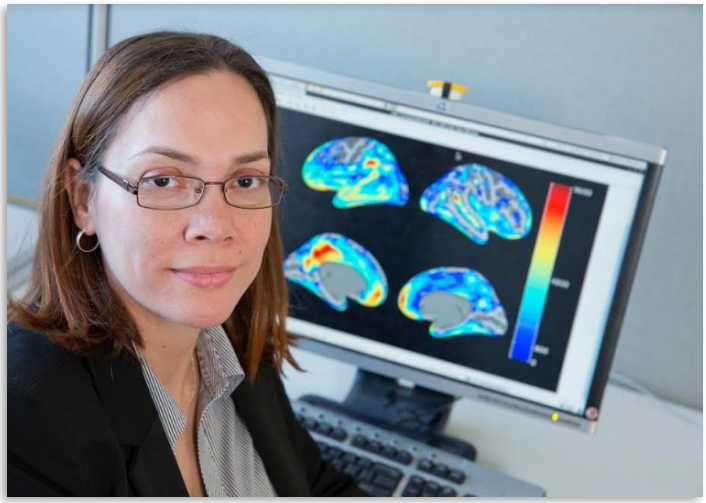
## A Passion for Igniting Global Engagement: An Interview with Yakeel Quiroz

Pamela Dean, PhD, ABPP, VA Puget Sound Healthcare System & University of Washington
Ozioma Okonkwo, PhD, University of Wisconsin-Madison

Yakeel T. Quiroz, PhD, is a neuropsychologist, neuroimaging researcher, and Assistant Professor in the Departments of Psychiatry and Neurology at Massachusetts General Hospital (MGH), Harvard Medical School, Boston, MA, USA. Dr. Quiroz currently serves as the Director of the Familial Dementia Neuroimaging Lab, and the Multicultural Alzheimer's Prevention Program (MAPP) at MGH. She is also the Co-Director of the MUNDOS Neuropsychological Service at the Harvard MGH Psychology Assessment Center.

Dr. Dean: Dr. Quiroz, you are the founder and director of the Familial Dementia Neuroimaging Lab and the Multicultural Alzheimer's Prevention Program, at Harvard Mass General Hospital. What was the impetus for starting these programs?

My clinical expertise is in neuropsychology, but I also trained in neuroscience and neuroimaging. I first started with the Familial Dementia Neuroimaging Lab, where we are studying families with autosomal dominant forms of dementia including early-onset Alzheimer's disease, frontotemporal dementia, and CADASIL. I started this when I joined Mass General as faculty in 2014. At that time, I received a grant from the NIH Office of the Director that allowed me to establish my own lab. In the lab, most of our research is focused on biomarkers of familial dementia. This was also an extension of work I started in Colombia, in which I have studied families with Alzheimer's disease for now almost 20 years. When I joined Mass General, we began bringing members of these families to Boston monthly in order to better understand preclinical dementia and early changes in biomarkers.



Yakeel T. Quiroz, PhD

Two years ago, I started the Multicultural Alzheimer's Prevention Program (MAPP) as an effort to increase the participation of diverse individuals in Alzheimer's research. We then started a collaboration with the Harvard Aging Brain Study to develop the Latino Harvard Aging Brain Study. This integrates my interest in biomarkers, neuroimaging, and early detection of dementia. This was also an extension of work I started in Columbia, in which I studied families for almost 20 years. When I joined Mass General, we began bringing these families to Boston monthly in order to better understand early onset dementia and changes in biomarkers.

Dr. Dean: What kinds of outcomes or successes have you had in these programs?

We are probably the only ones doing this kind of international collaboration. So far we have been able to show that those with mutations in the presenilin 1 gene, who don't have any symptoms,

have changes in their brain function and pathological markers several years before the onset of symptoms. These families develop mild cognitive impairment (MCI) in their mid-forties, but we are seeing amyloid changes in their late 20s and tau pathology in their mid 30's.

Dr. Dean: You are also the Co-Director of the MUNDOS neuropsychological service. Tell us what is unique about this service? Do you use tests normed in Spanish or do you interpret English based tests into Spanish? What are the considerations clinicians should be mindful of when interpreting their data?

MUNDOS started in 2014, so it's relatively new. We started this to offer clinical services to those who are monolingual or bilingual in Spanish. It's a work in progress; the first thing was trying to get the cognitive measures that were available in Spanish, the second was getting familiar with the existent norms and relevant literature that discuss these measures, and third, was finding ways to develop and evaluate our own measures.

Our interns and postdocs in multicultural neuropsychology have been very involved in this over the years. Getting the measures that that were available in Spanish and/or normed in Spanish has been a big accomplishment. We have now a closet full of measures that are not only from the States but from other countries as well. Latinos are a heterogenous group, so using norms from one country, such as Ecuador, may not fully reflect those from say, Mexico, so we still have a long way to go for every country and every culture.

Dr. Dean: What guidance would you give to clinicians, who are working with multicultural populations, in interpreting the data where the norms are not quite as robust or fitting of a particular culture?

I always tell my trainees that we need to acknowledge the limitations of the measures we are using. We have a standard paragraph that we include in our reports that describes the limitations that should be taken into account. The value of the clinical interview can have even more importance when working with multicultural patients. We spend a lot of time in the interview to get as much information as possible in order to understand the patient's baseline level of functioning, and get a sense of how much he/she may have changed from their baseline and characterize their current cognitive functioning.

Dr. Okonkwo: You currently are the Chair of the Diversity and Disparities Professional Interest Area of the Alzheimer's Association. What are you are most excited about as you think about the future of Alzheimer's research?

While my main interest when I first proposed this professional interest area was to increase the participation of diverse individuals into Alzheimer's research, I also try to promote and increase representation of investigators from diverse backgrounds into research. This is something that my colleagues and I proposed because there was a huge need to have more diversity represented in Alzheimer's research and clinical trials.

One of the things that has been very exciting for me is seeing how diverse investigators from different parts of the world, from different continents actually, can come together to discuss research initiatives, and find novel ways to work together, to move Alzheimer's research forward. So, I have been very pleased as the Chair of the Diversity PIA for contributing to strengthen this kind of community of investigators and trainees around the world. I have learned a lot about how research is conducted outside the US and how we can help and train different communities. It's a world representation of leaders in this field, working together to end Alzheimer's disease and other dementias.

Dr. Okonkwo: As you know these are very trying

times for Alzheimer's Research and we greatly appreciate the work that you are doing in this area. We understand you are one of the persons involved in the LatAm FINGERS program, which now has 14 Latin American country partners! Can you tell us a little bit about what this project as well as your particular role in it as a neuropsychologist?

The FINGERS program is a global initiative; a multilevel intervention program that now includes several countries around the world and it's the largest of its kind. We have Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, Mexico, Paraguay, Peru, Puerto Rico, and Uruguay. I have been supporting the efforts of the Colombian team in this project. We are working now to develop a protocol that can be adapted for Latin America. There is a lot of diversity even among the Latinos in the different Latin American countries. So as far as this Latino America FINGERS, we've been working really hard in finding ways to harmonize our measures and outcomes.

One of the roles of neuropsychologists has been finding some cognitive measures that can be used as outcomes for the intervention trial, so we can get similar information from all of these different countries/sites. There are also neuropsychologists on this team that are looking at different ways to adapt the lifestyle interventions. The project is in the first stages, but we are looking forward to seeing the outcomes of this novel project.

Dr. Dean: You've had incredible drive to create or become involved in these different initiatives and programs. What barriers do you see the field of neuropsychology needs to address from a multicultural perspective?

There are several barriers for multicultural neuropsychology. That said, I do not think we should focus on the barriers but in what we can do to move the field forward. That's exactly what


The Harvard MGH Multicultural Alzheimer's Prevention Program (MAPP)

we are trying to do with these different initiatives. I can speak for hours on the barriers because we still have a very long way to go. But I'm optimistic and like to think that we are now better than we were 5 years ago. So we have made some progress. Locally for instance, 5 years ago, there was no MUNDOS, so patients who were Spanish speakers didn't have access to more appropriate evaluations. Now they have options available to them.

Dr. Dean: You've also been very involved in the local community for quite some time. We hear that you founded a local neuroscience education program, SINAPSIS. Can you tell us more about it and other education and advocacy programs you've founded or participated in?

I grew up in Colombia and obtained my bachelors there. I've been always passionate about the brain and neuroscience and as student I noticed that there was no curriculum available. We started a student group in college as a way to learn more about neuroscience. Two years later, we brought it to high school students, and then to the elementary school. I wanted to have different disciplines thinking about the brain. SINAPSIS was created as an interdisciplinary program that included students from psychology, biology, medicine, engineering, and

anthropology. Last year, this program celebrated 20 years!

Dr. Dean: We hear that you were named "Colombian of the Month" by the Colombian Consulate of Boston last December. How did that feel to have your work recognized in this way?

There were several events that led up to this. In 2017, a local paper named me one of the hundred most influential individuals for the Latino community. I have worked with the Latin American consulates in Boston and often give presentations on brain health and how to protect your memory. In November, my group published an article in Nature Medicine that received a lot of attention, including the New York Times and other media outlets. This was related to our work with Colombian families with Alzheimer's disease. Patients from these families usually developed dementia in their 40s, but we identified an individual who was a mutation carrier, but was in her 70's and was only starting to show symptoms of Mild Cognitive Impairment. We studied her in Boston and found that she had high levels of amyloid but limited tau or brain atrophy. We ran genetics and found that she had a mutation in APOE3, Christchurch, that is believed to be protective against dementia. Based on this work, the consulate contacted me and came to the lab to learn more about our work, and last year, they named me the Colombian of the Month!

Interestingly, when I posted the news on my Facebook page I was really surprised to see that for my friends and family this recognition was way more important than any other recognition I have received in my entire life!

Dr. Okonkwo: You have had a lot of incredible accomplishments and success as someone who is still relatively early in their career. What kind of advice would you have for others following a similar career path?

It was interesting, last week actually, I had the opportunity to meet with the residents here at MGH and one of the residents asked me that same exact question and I was like: "um I don't know" (laughs). I always say that the key for me has been passion; being passionate about what you do and what you want to accomplish. Passion keeps me motivated! One of the residents actually turned to me and said, "it sounds like...you have a really high level of determination." And I was like "oh yeah that's a great way to put it". Because at the end of the day you need to have high levels of passion and determination in order to advance your career because you're going to face a lot of challenges and obstacles. I think that if you know where you want to go or what you want to accomplish, you will just find a way to overcome those challenges.

The other thing that I would like to mention is that it is really hard to accomplish anything by yourself. Finding great mentors in your life and having people that support you in different ways has been key for my career development. Finally, try to find people with similar interests but with different backgrounds; collaborators from outside your city, state, country, or continent; diverse people who can work together to find different solutions. It is something that has been also important in my career.

Dr. Dean: With all of your work and achievements, what do you do to practice self-care? What helps you to stay balanced?

I have two children and I enjoy spending time with them and really being present with them. It's a constant reminder of what is important in life. You can't be successful on your own and my husband is supportive both in my work and family roles. My family is very important to me. I try to spend my weekends enjoying my time with them as much as I can, so they know I am there for them ■

# Special Interest

## Celebrating the Inaugural Travel Grant Winners

Lena Dobson, PhD, ScandicNeuro Corp
Holly Miskey, PhD, Salisbury VA Healthcare System

This year, the INS Science Committee rolled out a new initiative for the Denver 2020 conference. The Travel Grant awards were designed to help support researchers who are engaged in excellent science but might not have the financial support to present their findings at international conferences. All winners were recognized with certificates during the INS Awards Ceremony.

### Early Career Award Winner

Early career award winner Dr. Harsimar Kaur presented two posters, including the first, *Effectiveness of a Caregiver delivered Home based Comprehensive Neuropsychological Rehabilitation for Post Stroke Aphasia: A Randomized Controlled fMRI,* which concluded that the home-based intervention was helpful in improving language and quality of life. The second, *Does Neuropsychological Rehabilitation lead to Return To Work in Post Stroke Aphasia? Findings from a Randomized Controlled Trial,* concluded that the intervention was able to help individuals explore other areas of return to work such as being self-employed, returning to a similar or modified job or trying to engage oneself in unpaid work.

### Student Award Winners

Student award winners included Ms. Debra Machando and Mr. Gabriel Qi. Ms. Machando presented a poster entitled, *Predictive Validity of the Zim-BCoS Neurocognitive Screen.* Her project evaluated the ability of the Zimbabwean version of the Birmingham Cognitive Screen to assess post-stroke cognitive impairment and to

Early Career Award:
Harsimar Kaur
India

Student Award:
Tasmia Hall
Bangladesh

Student Award:
Debra Machando
Zimbabwe

Student Award:
Gabriel Qi
China

predict functional recovery. Mr. Qi presented a poster entitled, *Systematic Review of Normative Neuropsychological Date for People Speaking Chinese Languages.* His project reviewed studies that provided normative data for various Chinese dialects and regions.

This year the Science Committee had an additional award courtesy of the generosity of Keynote Speaker, Dr. Sonia Lupien. Dr. Lupien donated her honorarium to support conference attendance for a student INS member. Ms. Tasmia Hai was recognized just prior to Dr. Lupien's talk for her poster, titled, *Volumetric differences in subcortical regions in children with ADHD and typically developing controls.* Her project investigated potential volume differences in the hippocampus, caudate nucleus, and putamen.

Congratulations to all of our award winners! Look to future editions of the INS newsletter for more about their unique experiences traveling to the conference and what they were able to bring back to their country of origin in future newsletters ■

Are you looking for a way to connect with other INS members who share a similar interest in a specialized area of neuropsychology? The International Neuropsychological Society currently sponsors several special interest groups (SIGs) from which INS members can currently choose. Come join the fun…or even start a SIG of your own! Current SIGs include:

- Brain Injury (Contact: Lena Dobson, PhD)
- Cultural (Contact: Aparna Dutt, PhD)
- Dementia (Contacts: Ozioma Okonkwo, PhD, Adam Brickman, PhD, or Yen Ying Lim, PhD)
- Epilepsy (Contact: Cady Block, PhD)
- Oncology (Contact: Michael Parsons, PhD)
- Sports Concussion (Contact: Donna Broshek, PhD)
- Social Cognition, Emotion, & Communication (Contact: Skye McDonald, PhD)

For additional information about INS SIGs, or to inquire about starting a new SIG, check out the call for SIG applications on the INS website.

# Global Engagement

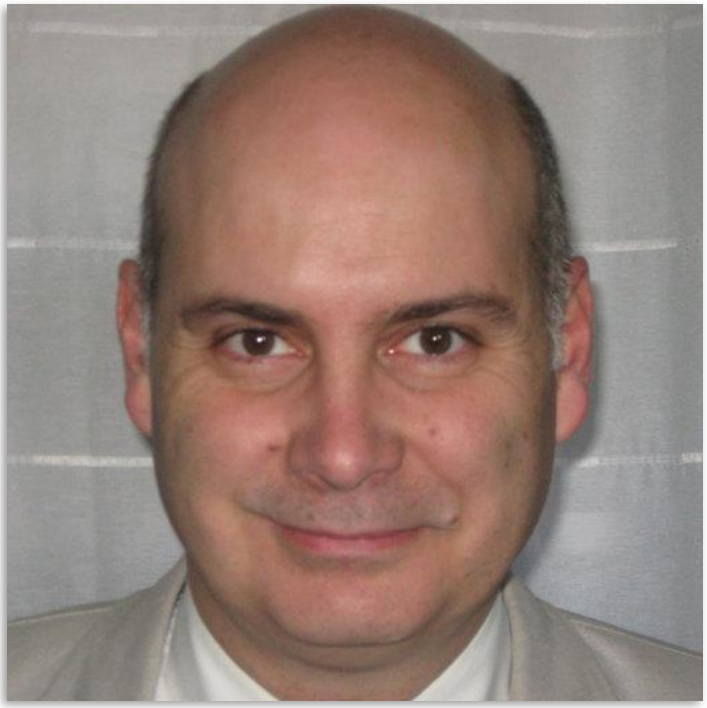
## Prospects in International Development of Neuropsychology: Perspective from Five Different Continents

Alberto Luis Fernandez, PhD, Universidad Católica de Córdoba

During the INS Meeting in February 2019, in New York, the International Liaison Committee organized a symposium whose goal was to generally describe the current state of development of neuropsychology across the five different continents. Neuropsychologists from each continent (Oceania, Asia, Africa, Europe and Latin America) were invited to present on the current state of development of the discipline, the available assets in each other's regions, and the present state of neuropsychological research and services.

Dr. Skye Mc Donald, from Australia, presented his perspective on challenges of neuropsychology in Oceania. In her presentation she stated that most Pacific island nations have no access to neuropsychological services. Even basic health care services are stretched. Within Australia and New Zealand, neuropsychological services are well established but face particular challenges such accounting for the cultural diversity of the patient population, availability of appropriate tests and normative data, and the role of socio-economic disadvantages and a history of trauma in indigenous and refugee groups.

Dr. Aparna Dutt, from India, examined the situation in Asia. She showed that despite the need for neuropsychological services in the Asian region, service demand, provisions, accessibility and the number of neuropsychologists is disproportionately low. Among the factors that hinder the growth of neuropsychology in Asia she mentioned the lack of awareness of neuropsychological disorders, lack of relevant knowledge and clinical skills



Alberto Luis Fernandez, PhD

training for neuropsychological assessment and rehabilitation, limited availability of culturally and linguistically appropriate neuropsychological resources, lack of adequate understanding of sociocultural, linguistic and literacy diversity during test adaptation and assessment and poor remuneration.

Dr. Sharon Trutter, from South Africa, representing the African continent, focused her presentation on the extent to which neuropsychological tests have been adapted and normative data have been collected in African countries. She concluded that many tests have been effectively applied within African population groups, either making use of

adaptations and/or translations, or by testing English-fluent participants without adapting the test. However, very few African countries have been involved in such application.

Dr. Jonathan Evans, from the United Kingdom, presented the situation of neuropsychology in Europe. He stated that even when many of the most important developments in neuropsychological theory and practice have emerged from Europe, the development of current European neuropsychology is characterized by heterogeneity, in relation to service provision, training pathways, statutory regulation, availability of culturally and linguistically appropriate neuropsychological assessment tools, and the extent to which neuropsychologists contribute to neuropsychological rehabilitation. Heterogeneity is an issue between countries, but also within countries. Because of some stark differences in training across countries European neuropsychologists are making efforts to identify and agree core competencies that could enable greater consistency of service provision and easier movement of skilled practitioners between countries.

Finally, Dr. Alberto Fernández, from Argentina, described the situation in Latin America. He highlighted that there is an uneven development of neuropsychology across Latin American countries with just a few in which the discipline has experienced a significant development. In many countries neuropsychology is in its initial stages. In general, both quantitative and qualitative research in the field is scarce compared to other regions. The same is true about resources for research. In the professional field there is demand for more training opportunities, regulation of the professional practice, development/adaptation of neuropsychological test and job opportunities.

These presentations allowed us to affirm that the present state of development varies significantly across the continents due to differences in such factors as demographics and financial resources. While in some European regions, North America and some countries of Oceania neuropsychology is highly developed; the situation in the rest of the world is very different with most regions struggling to provide appropriate services, training opportunities and quality research.

The most developed neuropsychology in some regions can serve as a model for the development of the less developed regions. Likewise, the contexts where neuropsychology is less developed can provide information for the global development of the discipline such as influence of low education, diversity of languages and influence of particular cultural variables ■

# Students & Trainees

## Neuropsychology Training & Interviewing: A Global Perspective

**Joshua Fox-Fuller, MA, Boston University**

Joshua Fox-Fuller, MA

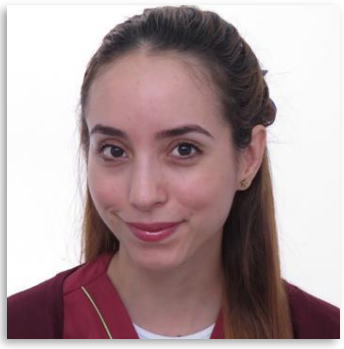
I hope that INS 2020 in Denver has reinvigorated your science and clinical work as much as it has for me! I am excited to be the new Member-At-Large for the INS Student Liaison Committee (INS SLC) for the 2020-2022 term, and I look forward to representing the diverse perspectives and needs of our trainees to the INS SLC and INS leadership.

The Student and Trainee article in February 2020 written by my predecessor, Corey Bolton, was an interview with Dr. Cady Block about tips for interviewing for major neuropsychology milestones that are the core of our training model in the United States and Canada (e.g., pre-doctoral internship and post-doctoral fellowship).

As a complement to the previous article and with the inherent international membership of our society in mind, the inaugural article I have curated presents perspectives from five neuropsychologists about the status of neuropsychology, training, and interviewing in four countries (Colombia, the Democratic Republic of the Congo, Panama, and Saudi Arabia). I am grateful to these neuropsychologists for sharing their experiences and thoughts with us, and I look forward to continuing to work with our international membership of neuropsychologists and trainees to ensure that our wide array of experiences is shared with one another.

I invite you to connect with me to discuss your thoughts on topics that you would like to be discussed in the Student and Trainee section of the upcoming issues of the INS Quarterly Newsletter. I can be reached over email at jtfuller@bu.edu.

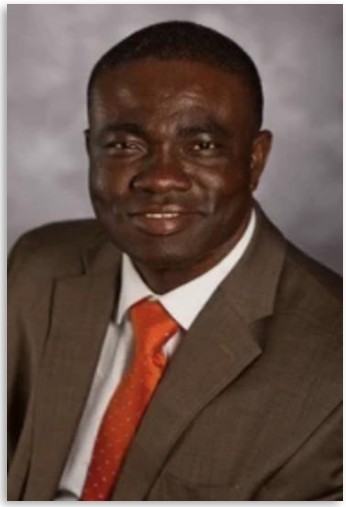
### Contributor Biographies



Ms. Ana Baena, of Colombia, is psychologist at the University of Antioquia. She received her master's degree in neuropsychology from the University of San Buenaventura where was on the honor roll and received an honorable mention for her master's thesis. She has worked in the Grupo de Neurociencias de Antioquia (GNA; Neuroscience Group of Antioquia) since 2014 as a neuropsychologist, and she currently coordinates a research project between Boston, United States and Colombia which examines early-onset Alzheimer's disease.

Dr. David Montoya, of Colombia, is a psychologist in the University Pontifica Bolivariana. He received his master's degree in neuropsychology from the University of San Buenaventura and a PhD in applied cognitive neuroscience. He has received several awards, including the Junior Scientist Prize from Colciencias in neuropsychology, the best investigator award (Guillermo de Ockham Prize), and was recognized as the best researcher in the faculty of psychology at the University Pontifica Bolivariana in 2016.

Currently, Dr. Montoya coordinates graduate training programs in neuropsychology and doctorate degrees in psychology in Colombia, and has worked as a neuropsychologist for the last 13 years. He also coordinates the faculty researchers in psychology and is a member of the ethical review board in the University Pontifica Bolivariana where he directs his own lines of research on neuropsychology, emotion, cognition, and behavior.



Dr. Jean Ikanga, of the Democratic Republic of the Congo, first trained as a Catholic Priest (BA in Philosophy, MA in religious studies) and later completed a PhD at the University of Detroit Mercy in Clinical Psychology with a specialization in neuropsychology in 2015. His predoctoral internship was at Emory University School of Medicine (SOM) in the department of rehabilitation Medicine in the division of neuropsychology in 2014. He remained at Emory University SOM at the department of Rehabilitation Medicine for his post-doctoral fellowship under the mentorship of Dr. Anthony Stringer.

After finishing his post-doctoral fellowship in 2017, Dr. Ikanga became an assistant professor at the University of Kinshasa SOM in the department of neurology and visiting assistant professor at Emory SOM. As a post-doc at Emory, Dr. Ikanga and Dr. Anthony Stringer developed the African Neuropsychology Battery (ANB). They collected data in 2017 and validated the ANB in 2018. In 2018 Dr. Ikanga also received a grant from Alzheimer's Association to collect the first data on the cognitive and biological biomarkers of Alzheimer's disease in the Democratic Republic of the Congo (DRC).

Dr. Emelyn Sánchez, of Panama, has a master's degree in neuropsychology and a PhD in cognitive neuroscience. She works professionally as a neuropsychologist in Panama and also coordinates the International Institute of Neuroscience where she runs various trainings. The topics which most interest her are the things we can do to protect ourselves from cognitive decline and the influence of technology (screens, in particular) on neurodevelopment.

Dr. Haya Al-Joudi, of Saudi Arabia, is a US-trained clinical psychologist specializing in neuropsychological assessment. She earned a bachelor's degree in psychology, clinical track, from King Saud University, and she was a neuropsychological assistant at two major Saudi Hospitals in Riyadh. She then received a scholarship from the King Abdullah bin Abdulaziz Scholarship Program and moved to the United States to pursue postgraduate education where she earned a doctorate in clinical psychology from Widener University, specializing in neuropsychology. She then completed a two-year postdoctoral residency in clinical neuropsychology at Johns Hopkins Hospital.

Dr. Al-Joudi's research involves assessing changes in attentional deficits and impulse control in Saudi children with ADHD, risk taking and learning styles in Parkinson's disease (PD), and neuropsychological test development. She has adapted over ten intelligence and cognitive tests for use with Saudi patients in clinical stentings, and has collected data validating 15 Arabic tests for use with epilepsy surgery candidates at King Faisal Specialist Hospital (KFSH) in Riyadh, Saudi Arabia. As a clinical neuropsychologist at KFSH, she assesses a wide variety of neurodevelopmental disorders and performs epilepsy and PD pre-surgical evaluations. She continues to be a research collaborator and co-investigator with the Medical Psychology Division at Johns Hopkins School of Medicine and she is the vice president of the Saudi Society for Professional Psychology.

What does the process look like to become a neuropsychologist in your country? Is it well-established as a profession in the medical and mental healthcare fields?

Ms. Baena and Dr. Montoya: To become a clinical neuropsychologist in Colombia, one must first get a professional degree in psychology, since only psychologists in Colombia are authorized to utilize psychological materials. Neuropsychology is considered a specialization of psychology, so it is regulated by the same laws as psychologists.

Secondly, one must develop competencies in the areas of evaluation, intervention, consultation, supervision, and research.

Third, the person must have abilities and knowledge to complete clinical activities in different contexts, cultures, ethnicities, and linguistic populations. In summary, the training includes learning about psychology, psychopathology, psychometrics, techniques of evaluation and intervention, ethics, brain and behavior relationships, and skills in the fundamentals of assessment. We generally follow the guidelines laid out by the Society for Clinical Neuropsychology (Division 40, American Psychological Association). A person who wants to be a neuropsychologist must also receive postgraduate training in neuropsychology (specialization after undergraduate education or a master's degree), either at a university in Colombia or universities outside of the country. Then, one must receive certified clinical experience after their postgraduate training to prove their ability to work in neuropsychology. Neuropsychologists, depending on the place where they work, must also certify their hours and use of certain evaluation protocols based on the evidence according to the disorders they are assessing.

Dr. Ikanga: I am the first neuropsychologist in the DRC, so there is no job description for neuropsychologists and I am still finding my feet at the University of Kinshasa. It is difficult because I do not feel accepted by the Department of

Psychology – which finds me as more medical than a psychologist – and I do not feel accepted in the department of neurology in the SOM because I am considered as a psychologist and I am not a physician. I have been able to share my knowledge of neuropsychological testing with some medical students and psychology students through conferences at which I speak at in the University of Kinshasa SOM. We do not have a formal neuropsychology program yet in the DRC, but thanks to INS (and particularly to Dr. Keith Yeates and Dr. Miriam Beauchamp) we are launching a training program that is expected to begin this fall in which one or two students from the DRC will go each year to the University of Montreal to do their graduate studies in neuropsychology. It is my hope that by starting from the bottom and training this next generation of neuropsychology students that these students can bring the fire of neuropsychology back to the DRC and be leaders in this emerging profession.

Dr. Sánchez: In Panama, there is no formal training to become a neuropsychologist – it is a developing area of practice within psychology. There are twenty neuropsychologists in total in Panama (a country of approximately four million people). Most neuropsychologists work in private clinics; there is only one neuropsychologist in the public healthcare system.

Dr. Al-Joudi: Despite giant strides in national awareness of mental health needs and acceptance of psychological treatment, clinical psychology in general remains an emerging profession in Saudi Arabia. One of the obstacles was, and slightly still is, categorizing psychology as one of the literary fields in Saudi Arabian universities. Medicine, as I see it, is impressively advanced in Saudi Arabia, with hospitals repeatedly ranking the best in the Middle East. Psychiatry as a practice benefited from this advancement, whereas clinical psychology was left behand battling the above-mentioned old beasts or what's left of their structures. Doctoral programs in any field of psychology in Saudi Arabia are likely less than five in total, if any are still standing, and nearly all of Saudi doctoral graduates in psychology have graduated from western countries or neighboring Arabic countries like Egypt, Lebanon, and Jordan.

As to current clinical neuropsychological practices in Saudi Arabia, I can define two streams. The first, and no less than 80% of what is common, are neuropsychological evaluations conducted by cognitive psychology scientists or behavioral neuroscientists (Ph.D. earned from European countries with research emphases) and limited years of formal, supervised training in clinical psychology. The remainder of the neuropsychological evaluations are conducted by clinical psychologists who have specialized in assessment in internship and doctoral curricula. Postdoctoral training in clinical psychology remains a relatively newer concept in Saudi Arabia. Saudi psychologists with postdoctoral training in clinical psychology may be under 10.

Are there organizations in your country that support the development of neuropsychology students and trainees?

Ms. Baena and Dr. Montoya: In Colombia students can join the following groups: (1) the Latin American Society of Neuropsychology (link), (2) the Latin American Association of Neuropsychology (link), and (3) the Colombian Society of Neuropsychology (link).

Dr. Ikanga: Not that I am aware of for neuropsychology, specifically. We have a Psychology Association in the Congo in which students can be members, but there are not any student-specific organizations in psychology in the Congo.

Dr. Sánchez: Panama does not have formal organizations that support neuropsychology trainees like those that exist in the United States.

However, The Academy of Neuroscience of Panama (La Academia de Neurociencias de Panama, ANPA) has the goal of promoting Neuroscience in the scientific community in Panama. The ANPA is a community of researchers, physicians, professors, students, and members of other related disciplines that search to promote the development of neuroscience knowledge through diverse activities. ANPA also searches to strengthen the net of neuroscientists locally and internationally through mentoring and collaborations. This group may be of resource to students as the field of neuropsychology continues to develop in Panama.

Dr. Al-Joudi: In early 2019, and under the umbrella of the Saudi Commission for Health Specialties (SCFHS), the Saudi Society for Professional Psychology (SAPP) was established. Board members formed task forces, and one is assigned to work on defining and formalizing national standards of pre-doctoral training in clinical and counseling psychology. Trainees are encouraged to register with SAPP. One of SAPP's goals is to establish an Academic Counsel for within SCFHS to ensure a national standard for clinical psychology training. On a smaller scale, KFSHRC offers the only one-year residency in clinical psychology in the country. Graduate-level psychologists with enough coursework and research work in clinical psychology can apply.

What interview recommendations do you have for students and trainees in your country? For example: Is it considered appropriate or inappropriate in your country or culture if a candidate talks a lot about their own qualifications and experience? Is there a certain common etiquette in your country and culture regarding eye contact, body posture, and dress?

Ms. Baena and Dr. Montoya: It is not necessarily bad to talk about one's experiences if the job candidate can support their qualifications. It is important to assess whether the person is suitable

suitable for the job for which they applied. The majority of the job postings in Colombia ask for professional expertise, not just academic, intellectual, or clinical training. If an applicant states she or he has a lot of experience, some institutions might ask that the person demonstrate their knowledge and skills before being offered the job. During the interview a person is evaluated on the capacity to develop and use their clinical skills, which also includes social skills (e.g., empathy, emotional processing, theory of mind). Socials skills are important but are not necessarily a factor that will disqualify a job applicant outright.

Dr. Ikanga: Similar to what I have seen in the United States, in the DRC you need to know who is interviewing you and what they need to know to determine if you are a good candidate for the position. You, too, should evaluate if the job or training site is a good match for you and your goals. One thing that is also very important is to not look in the eyes the person who is interviewing you, which is something I had to work on when I came to train in the United States because in the United States eye contact is very important. In the DRC it is considered disrespectful if you make eye contact with your superiors. It is also important to be confident in what you are saying and in your training, but people in the DRC value hierarchies so you do not want you to speak or act as if you know more than

them; you should share what you would like to learn from your potential employers or mentors and make it clear to them that their knowledge is invaluable to you as an applicant.

Dr. Sánchez: In Panama it is good to sustain eye contact when talking and it is important to "sell yourself" well [during an interview], although we care a lot about maintaining hierarchies so it is important to never say that you know more than your boss or superiors. People in Panama also value a lot the way you look, so usually during interviews everything is checked, from the shoes you wear to the hair style you use. For interviews, more conservative attire is generally preferred (e.g., formal suits, women typically wear high heels and make up, men wear ties).

Dr. Al-Joudi: Fluency in Arabic and English are often expected and evaluated in interviews, especially in hospital settings where patient communication is often in Arabic and documentation is always in English. It is also important to demonstrate flexibility and a sense of humor, both of which are important in our dynamic setting of providing several neuropsychological evaluations a week. One must also discuss how they are prepared for the logistics of the training program.

## Summary

The perspectives of these neuropsychologists from four countries across three regions of the world highlight some of the work being done by these leaders in the field of neuropsychology.

The INS SLC also exists to address student and trainee professional development needs, as well as to help foster student contributions to neuropsychological science across the world. In addition to the resources mentioned in this article by the expert contributors, we suggest that neuropsychology trainees connect with the INS SLC on our webpage or on Facebook. Other potential modes of INS SLC communication (e.g., a Twitter account) may be coming out soon. So, keep on the lookout for those ■

### COVID-19 Resources for Students & Trainees

FACE COVID: Practical steps using strategies from Acceptance and Commitment Therapy (ACT) for responding to the various thoughts, emotions, and behaviors that are connected to the pandemic.

30 Day Coping Calendar: A day-by-day challenge (perhaps for the month of April, or as soon as you want) to implement personal self-care strategies in a scalable, manageable, and attainable way.

Resources curated by the American Psychological Association (APA): Resources related to mental healthcare during pandemics, including but not limited to:

- Current free CE on Telepsychology Best Practices (Link)
- Advice for supervisors and trainees during the COVID-19 crisis (Link)
- Resources for working with older adult patients (Link)
- Seven research findings that can help people with COVID-19 (Link)
- Informed consent checklist for telepsychological services (Link)
- How to protect your patients and your practice (Link)

# JINS First View

## Get an Early Look at Upcoming JINS Articles

*JINS is the official Journal of the International Neuropsychological Society, an organization of over 4,700 international members from a variety of disciplines. With a current impact factor of **3.098**, JINS publishes empirically-based articles covering all areas of neuropsychology and the interface of neuropsychology with other areas, such as cognitive neuroscience. JINS is published by Cambridge Press.*

Non-Spatial Impairments Affect False Positive Neglect Diagnosis Based on Cancellation Tasks
Hanne Huygelier, Margaret Jane Moore, Nele Demeyere, Céline Gillebert | Weblink

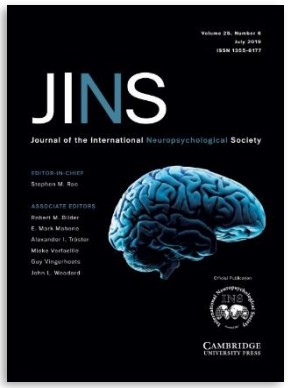
Device-Measured Physical Activity and Cognitive Processing Speed Impairment in a Large Sample of Persons with Multiple Sclerosis
Brian Sandroff & Robert Motl | Weblink

Combining Cognitive Markers to Identify Individuals at Increased Dementia Risk: influence of Modifying Factors and Time to Diagnosis
Nicola Payton, Debora Rizzuto, Laura Fratiglioni, Miia Kivipelto, Lars Bäckman, Erika Laukka | Weblink

Longitudinal Associations Between Contact Frequency with Friends and Family, Activity Engagement, and Cognitive Functioning
Neika Sharifian, A. Zarina Kraal, Afsara Zaheed, Ketylne Sol, Laura Zahodne | Weblink

Machine Learning Analysis of Digital Clock Drawing Test Performance for Differential Classification of Mild Cognitive Impairment Subtypes Versus Alzheimer's Disease
Russell Binaco, Nicholas Calzaretto, Jacob Epifano, Sean McGuire, Muhammad Umer, Sheina Emrani, Victor Wasserman, David Libon, Robi Polikar | Weblink

An Exploratory Study of Pathways from White Matter Hyperintensities to Cognitive Impairment through Depressive Symptoms Using SEM: A Cross Sectional Study in Patients with Dementia
Chang Hyun Lee & Do Hoon Kim | Weblink

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# Position Announcements

## Check out a Sampling of Current Jobs Postings Online

*Below is a listing of current positions advertised on the INS main website. For a more complete listing, please visit the Job Postings section of the INS website. INS neither warrants the factual aspects of postings nor endorses any position, institute, or employment requirement.*

**Adult Neuropsychologist – Salford, UK**
Salford Care Organisation/Northern Care Alliance (NHS) | Weblink

**Pediatric Neuropsychologist – Indianapolis, Indiana, USA**
Indiana University School of Medicine | Weblink

**Research Neuropsychologist – Bethesda, Maryland, USA**
GDIT Military Solutions | Weblink

**Adult Neuropsychologist – Lincoln, Nebraska, USA**
Madonna Rehabilitation Hospitals | Weblink

**Adult Neuropsychologist – San Antonio, Texas, USA**
University of Texas Health | Weblink

**Adult Neuropsychologist – Charleston, West Virginia, USA**
West Virginia University Health Sciences | Weblink

**Adult Neuropsychologist – Fargo, North Dakota, USA**
Essentia Health | Weblink

**Pediatric Neuropsychologist – Huntington, West Virginia, USA**
Marshall University School of Medicine | Weblink

**Adult Neuropsychologist – Pittsburgh, Pennsylvania, USA**
University of Pittsburgh School of Medicine | Weblink

**Pediatric Neuropsychologist – Austin, Texas, USA**
University of Texas Health | Weblink

# Calendar of Events

## See Upcoming Events of Interest to INS Members

*Below is a listing of upcoming events around the globe that may be of interest to our members. For a more complete listing, please visit the Related Meetings section of the INS website. INS neither warrants the factual aspects of postings nor endorses any position, institute, or organization.*

**International Workshop in Neuropsychological Assessment & Rehabilitation**
Bangkok, Thailand | April 20 to 24, 2020 Weblink

**American Academy of Pediatric Neuropsychology**
Las Vegas, Nevada, USA | April 24 to 26, 2020 Weblink

**Active Brain 2020**
Canberra, Australia | May 19 to 21, 2020 Weblink

**American Academy of Clinical Neuropsychology**
Washington DC, USA | June 10 to 13, 2020 Weblink

**International Congress of Psychology**
Prague, Czech Republic | June 19 to 24, 2020 Weblink

**Society for Clinical Neuropsychology (APA)**
Washington, DC, USA | August 6 to 9, 2020 Weblink

**European Congress of Neuropsychology**
Vienna, Austria | September 12 to 15, 2020 Weblink

**National Academy of Neuropsychology**
San Diego, California, USA | October 14 to 17, 2020 Weblink

**Society for Neuroscience**
Washington, DC, USA | October 24 to 28, 2020 Weblink


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