

NINET
Noninvasive Neurostimulation Therapies



NINET-IMH Clinic Newsletter

February 2020
www.ninet.med.ubc.ca

The NINET-IMH Clinic and Laboratory researches clinical applications of Non-Invasive Neurostimulation Therapies to improve the health of those suffering from a variety of mental illness.

NOTE FROM THE PAC MEMBERS

Dear reader,

This monthly newsletter is brought to you by NINET's Public Advisory Committee (PAC) members. We meet once a month to discuss improvements within the clinic, and our goal is to spread the word and educate the public about mental health, rTMS, and its usage in treating psychiatric disorders.

We hope that this newsletter serves the purpose of enlightening and keeping you updated with news within the NINET-IMH Clinic & Laboratory. If you would like to join the NINET-IMH PAC, please feel free to email us at ninet.lab@ubc.ca or let Rose or Ria know.

Sincerely,

NINET-IMH Public Advisory Committee (PAC) Members

HAPPY INTERNATIONAL DAY OF WOMEN AND GIRLS IN SCIENCE!

On February 11, people all over the world recognized and celebrated the International Day of Women and Girls in science. NINET took this day to highlight the many hard-working women in our lab and all that they have contributed.



Pictured left to right: Kathryn, Afifa, Sahaah, Judy, Meghan C., Haslin, Rose, and Ria.



We'd also like to acknowledge our lab members: Liz, Hallee, Renata, Milena, Liana, Michelle, Sherry, Vida, Sara, Meghan, Lisa, and Kathy who are not pictured here.

Last but not least, thank you to our PAC members, Brenda, Ruth, and Jennifer, as well as all of our female patients and participants for contributing their time and efforts to the lab.

RECENT PUBLICATIONS / UPCOMING EVENTS

Towards Competency-Based Medical Education in Neurostimulation

→ This paper aims to explore the shift to using competence-based medication education (CBME) in psychiatry residencies, with a focus on how neurostimulation is particularly suited to the CBME framework.

<https://rdcu.be/b1zxU>

Depression and Self-Care for Parkinson's at IMPACT Parkinson's - March 20, 2020 (3-5 PM) at #103-450 E Columbia St. New Westminster

→ Dr. Fidel Vila-Rodriguez will be speaking about a new clinical trial for people with Parkinson's who also have depression.

→ For more information and to register, contact info@impactparkinsons.com or call 604-525-2631

5th Annual Women's Health Research Symposium – March 4, 2020 (8 AM-4 PM) at The Robert H. Lee Alumni Centre

→ At 10 AM, Lisa Ridgway will be presenting on Patient Oriented Research within Women's Health.

→ For more information and to register, visit <https://ubccpd.ca/course/WHRI2020>

WRITE FOR US!

We are always looking for new content to share in our monthly newsletter. If you would like to contribute, send us your piece at newsletter.ninetlab@gmail.com for the chance to be published in an upcoming newsletter.

All pieces should align with the focus of the lab and be a maximum of 300 words. We also ask that the articles be information-based rather than testimonial-based.

For example, past newsletter content has included pets and mental health, life hacks and depression, the benefits of journaling, and an exploration of direct-to-consumer neurotechnology.

PLANTS ARE UNBE'LEAF'ABLE

We know that having plants around us is good because plants release oxygen which we breathe in, but could working in close proximity to plants also have psychological benefits? Past studies have tried to answer this.

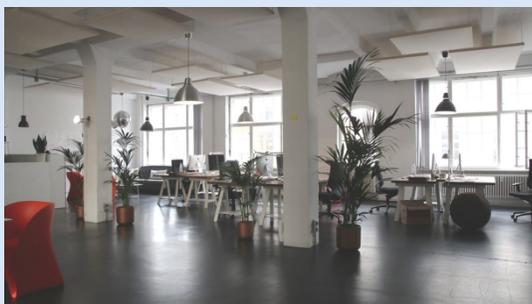


One study examined the effects of indoor plants on attention through the lens of Attention Restoration Theory (ART), which suggests that natural environments have a restorative effect on attention.

To test this, the researchers had participants work in a controlled laboratory setting designed to mimic an office. There were two conditions, one being an office with four indoor plants, and the other being the same office with no indoor plants. In both conditions, the researchers assessed the participants' attention before (T₁), immediately after (T₂), and five minutes (T₃) after having them complete a cognitive task.

They found that in the plant condition, participants did better on T₂ than on T₁, whereas participants in the no plant condition showed no improved performance. They also found that a practice and fatigue effect were present in both conditions, but, the fatigue effect was larger in the no-plant condition. This cancelled out any improvement from the practice effect. This cancellation did not occur in the plant condition which explains the improved performance between T₁ and T₂.

The researchers interpreted these results by suggesting that the presence of plants facilitated micro restorative experiences which helped to restore directed attention. More generally, this study offers insight into the benefits of keeping indoor plants as well as the benefits of taking short breaks while working (Raanaas, Evensen, Rich, Sjøstrøm, & Patil, 2011).



Another research group examined whether environmental stimuli could produce a biological response by having participants sit in an office with a "window view". The window view was actually a projection screen in which they projected scenes of nothing, a city view, or a view of nature. The researchers also put indoor plants in the office depending on the condition.

While participants sat in this office and completed various questionnaires about themselves and the environment, the researchers simultaneously measured their electromyography, electroencephalography, and blood pressure volume. They found that the participants who were the least anxious were the ones assigned to an office with a nature view and the presence of indoor plants. Those

assigned to the office with neither had the highest levels of anxiety (Chang & Chen, 2005).

While a lot more research needs to be done, it's clear that plants have some sort of psychological benefit, whether it's lowering stress levels or facilitating directed attention. Who knew? I, for one, am excited to see where this line of research will lead, and the real-world implications it may have. If anything, I hope you've been able to gain a little more love for plants and nature. They're pretty amazing.

- excerpted from [blog post](#) by Liana Weinberg

UBC NINET LAB INVESTIGATING PROMISING NEW DEPRESSION TREATMENT

The NINET lab was featured in the *Ubyssy* a while back. Here are the highlights:

Studies have shown that a region of the prefrontal cortex, called the dorsolateral prefrontal cortex (DLPFC), acts differently in patients with depression than in neuro-typical patients. In patients with depression, the right DLPFC is overactive, while the left DLPFC is underactive.

In order to treat depression, Vila-Rodriguez is using rTMS to target the DLPFC. While the exact mechanism is unknown, the theory is that **applying electrical signals to the DLPFC will help activate and deactivate neuronal activity.**

Typically, a patient will receive treatment once per week for several months, with the duration of a session ranging from three minutes to sixty minutes.

"For UBC students ... it's like a coffee break," Vila-Rodriguez explained, referencing the ease of the treatment sessions. **The lack of side effects** is also an extremely important factor. The current first line of treatment for depression is antidepressants, which tend to come with large lists of side effects.

Vila-Rodriguez would like to study rTMS as a **first line of treatment**, and compare this to Cognitive Behavioural Therapy (CBT), as many studies have focused on only comparing rTMS to a control group. Since these studies have shown rTMS to be an effective treatment method, it is now interesting to see how rTMS compares to other lines of treatment.

In particular, **this study would focus on depression in university students.** "Unfortunately, there are increasing rates of depression and suicide among students," Vila-Rodriguez said, "I would really like for us to be able to provide clinical treatments to the UBC community."

Vila-Rodriguez is hopeful to see rTMS used as a first line of therapy and to be **covered by MSP**. "I'm hoping that we can take the first step so that [rTMS] is a resource available for the UBC [community]."

- excerpted from [article](#) by Ainsleigh Hill

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