

## **BREAKTHROUGHS in BRAIN HEALTH**



Funding provided, in part, by the Government of Ontario



# The Ontario Brain Institute accelerates discovery and innovation, benefitting both patients and the economy.



OBI is an active partner in the funding, fielding and dissemination of research. Championing high impact research programs, OBI accelerates innovation with the goal of better patient outcomes.

Through the development and use of a state-of-the-art informatics platform designed to store, manage and analyze findings, OBI's Brain-CODE is a "shared brain" for researchers in Ontario and beyond.



OBI partners with research and industry to co-ordinate commercialization and application of brain-related technologies. Through access to funding and support OBI and its partners have created a track-record of success in nurturing and accelerating innovation.

Programs like ONtrepreneurs and NERD help de-risk investment in neurotechnologies bridging the funding gap between research and private capital to ensure validated brain-related technology.

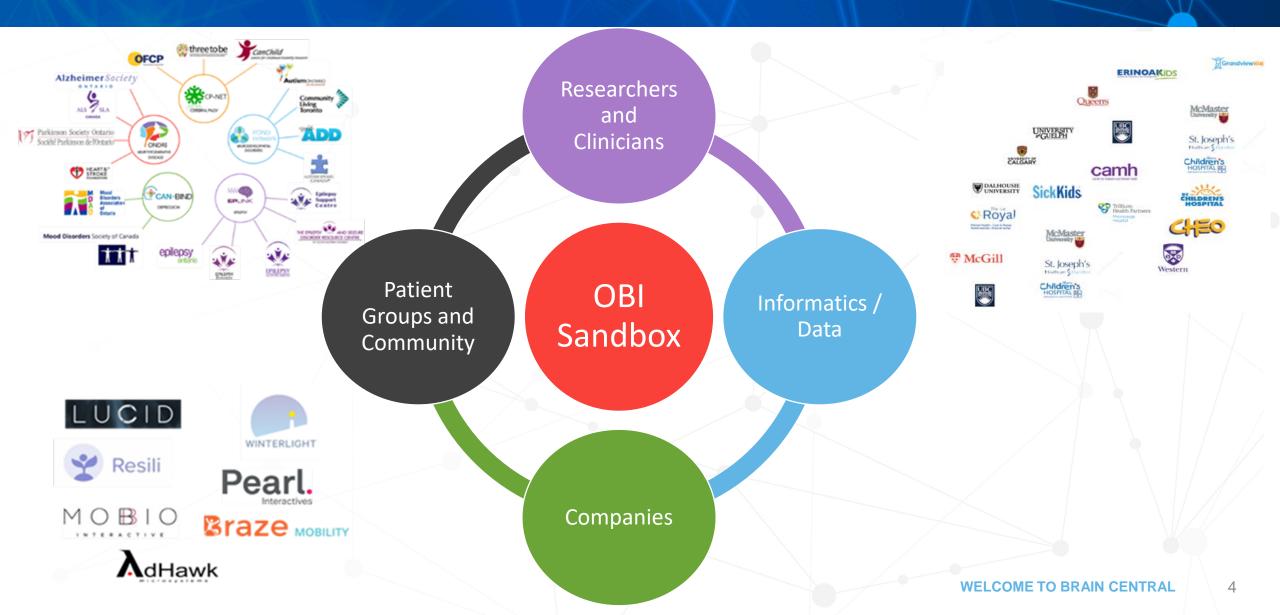


A focus on impact, means improving the lives of those affected by brain disorders. OBI creates new connections between patient groups, researchers, clinicians and other stakeholders, benefiting patients today and for generations to come.

To ensure scale and efficiency OBI funds and manages five Integrated Discovery Programs – neurodegenerative disorders, neurodevelopmental disorders, cerebral palsy, depression and epilepsy. These programs provide evidence-based care back to patient groups, delivering real-world application and positive impact.



## **OBI Ecosystem**





## **Today's panelists**



Dr. Lia Tsostos is the Director of the Sheridan Centre for Elder Research. She is an important partner for OBI – helping us test neurotechnology in the community to make sure that our neurotech solutions are viable, scalable and useful in the real world.



Mark Elias is the CEO and co-founder of Steadiwear, a company that developed and sells a wearable to help people with essential tremors or Parkinson's disease. Steadiwear is an example of the types of companies we support through our commercialization programs.



Sarah Robichaud is the CEO and co-founder of Dancing with Parkinson's, a non-profit bringing dance and music to people living with Parkinson's disease. DWP is an example of the types of community programs that we support through our knowledge translation programs.

# The Centre for Elder Research and what we do for your brain

November 2, 2023 Lia Tsotsos, PhD Director, CER, Sheridan College



The Centre for Elder Research conducts innovative

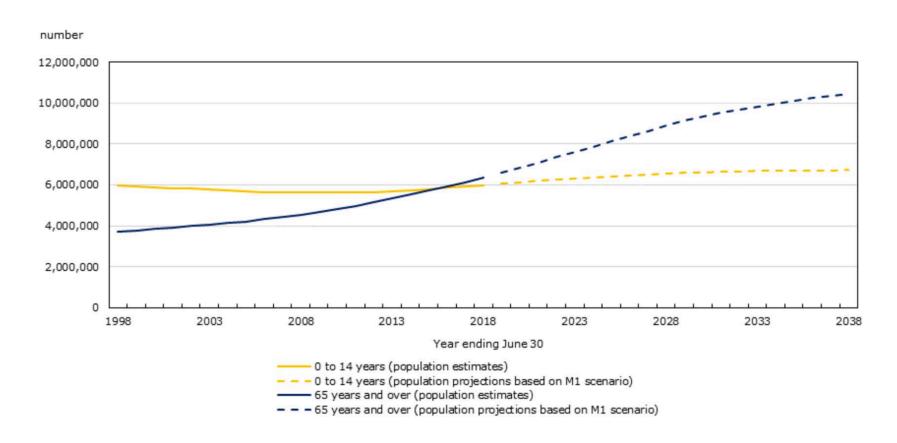
Lab to Life® research that enhances the quality of life

of older adults while serving as an education and
resource hub for Sheridan and the broader community.



## An aging Canadian population

Population aged 1 to 14 years and 65 and over, 1998 to 2038. Statistics Canada Demography Division 2018.



## Our services/approaches

The Centre provides a broad range of services and collaborative opportunities to support research in multiple domains.

- Research Methods/Design Support
- Literature Reviews
- Environmental Scans
- Program and Usability Evaluations
- Training of Highly Qualified Personnel
- Educational Outreach
- Community Engagement
- Consultative Services











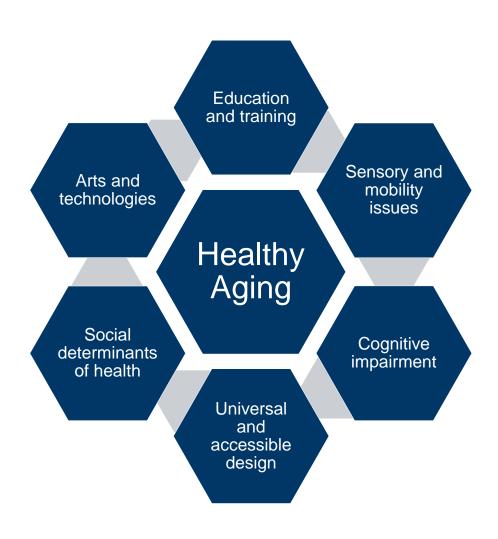






**Partnerships** 

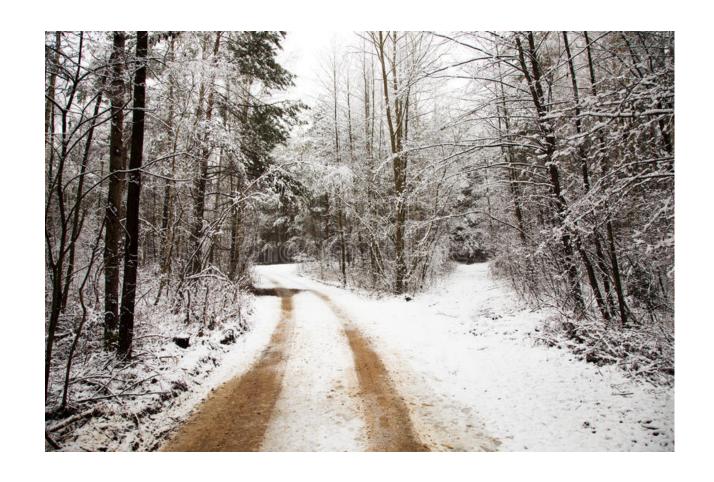
## The Centre for Elder Research team expertise



### What does this have to do with brain health?

There is no age limit on neuroplasticity.

It is never too late to grow your cognitive reserve.



# Neuroplasticity

- Relatively "new" idea in the field of neuroscience
- Both the structure and function of the brain can change in response to certain stimuli or external factors across the lifespan
  - Structure = connections between neurons
  - Function = how brain areas actually do things
- Leverage this power to persevere and learn new things and take on new challenges knowing that your brain is changing daily at a molecular and chemical level

# **Cognitive Reserve**

- Even "newer" idea!
- The ability to resist disease or age-related declines in cognitive functioning
  - A higher reserve means it takes more damage to a certain area of the brain before you observe a change or decline
  - Cognitive function = thinking skills
- All of the healthful, intentional and challenging activities you engage in continue to maintain and grow your cognitive reserve

# Testing cognition in partnership with OBI



Email: <u>elder.research@sheridancollege.ca</u> if you'd like to learn more!

# So, what do we do for your brain?

We validate cognitive testing protocols and tools in the "real world"

We offer engaging opportunities to learn new things, meet new people and develop a variety of skills

We promote healthy aging, accessibility and cognitive wellness and support advocacy for these topics (and more!) in our local communities

# The future is aging

#### Connect with us!

Web: elderresearch.sheridancollege.ca Email:elder.research@sheridancollege.ca





#### 1. Sleep: Our brain needs to rest

Sleep is necessary for the brain to function and helps you retain new information.



#### 6. Play: Get social

Socializing with friends and family can be fun, but it's also good for our brain!



#### 5. Move: Stay active

We know that exercise is good for our heart and our muscles. But did you know that exercise is also good for our brain?



#### 6 Tips for Mental Health

Your brain helps us move, think, feel and much more! It is one of the most important organs in our body, and it is up to us to keep it healthy especially during times of stress.

Learn ways you can adjust your lifestyle to keep your brain happy and healthy. You can take six simple steps everyday to improve your brain health.



Stress is a part of life, but when we have too much or too little, our brain works less effectively.



#### 4. Eat: Our brain is hungry

Our diet provides energy for our cells and the brain consumes 20% of our body's energy!



#### 3. Think: Your brain is plastic

For many years, we thought that the adult brain couldn't change.

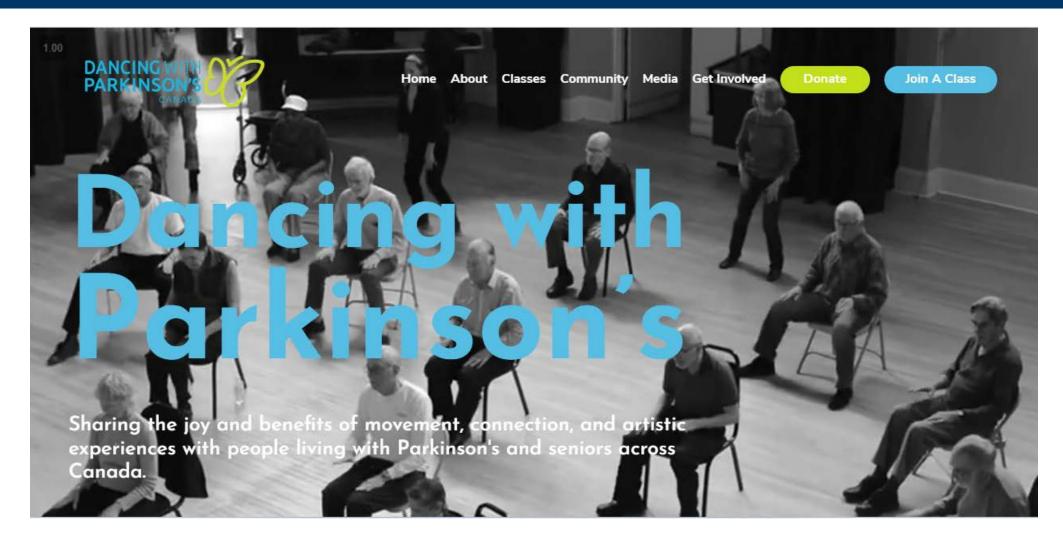
Now we know that it can create new connections between cells

and remove old ones. It can even form new brain cells!





The Steadi-Two glove benefits 2/3 tremor patients according to real world evidence with 1500+ users. (2) Steadiwear. Canada (CAD \$) ~ **Our Products VA Benefits** Home Steadi-Two Resources Contact Get Back To The Activities You Love With Steady Hands & Control! The Steadi-Two: A Revolutionary Glove Designed To Reduce Your Hand Tremors



https://www.dancingwithparkinsons.com/

A look inside DWP (YouTube video)

# **Contact Info**

Name	Organization	Email
Christa Studzinski	Ontario Brain Institute	cstudzinski@braininstitute.ca
Lia Tsotsos	Sheridan Centre for Elder Research	Lia.Tsotsos@sheridancollege.ca
Mark Elias	Steadiwear Inc	Mark.elias@steadiwear.com
Sarah Robichaud	Dancing with Parkinson's	sarah@dancingwithparkinsons.com



