Western Institute for Neuroscience

2021 Annual Report

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Section 1.0 – The Institute at a Glance

The newly established Western Institute for Neuroscience (WIN) is focused on research excellence in neuroscience with an emphasis on innovation, collaboration, and knowledge translation. The WIN will enable sustained advances in neuroscience research through the support of novel and high-risk collaborative ventures, emerging opportunities and the attraction and retention of leading researchers in the field. Through strategically planned programs and activities, the WIN aims to support a complex adaptive research environment that brings experts together to mobilize and integrate diverse perspectives, skills, and infrastructure. This will enable the development of high-impact transdisciplinary research projects that integrate interrelated efforts across disciplines in London and across the region, leveraging considerable breadth in perspective, expertise and methods to accelerate the discovery of fundamental knowledge, the development of novel applied research practices and the delivery of beneficial outcomes for human health and well-being.

Over the past year, the groundwork was laid for this new Board of Governors-approved Institute, based on the following vision, mission and mandates:

Vision

- Unlocking the mysteries of the brain for societal benefit.

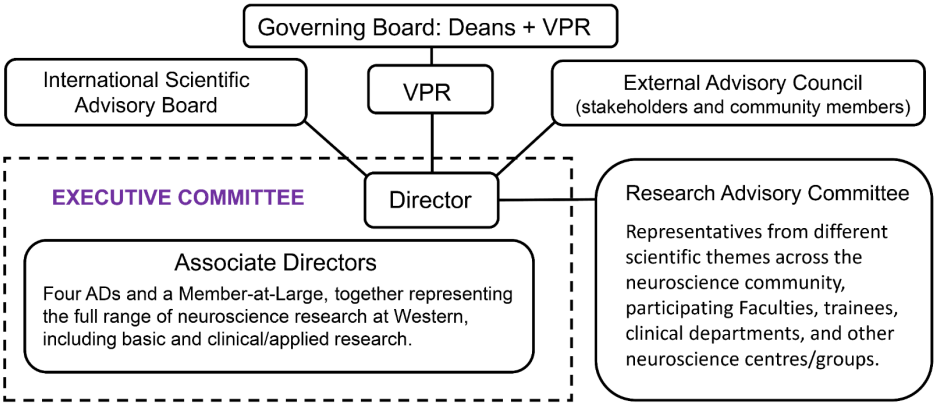
Mission

- To understand the brain and its nervous systems, the mind, and behaviour, and translate this knowledge to improve human lives and society.

Mandate

- To equip the neuroscience community at Western and the region of London, Ontario with leadership in vision, advocacy, and alignment of expertise;
- To provide financial support for novel and high-risk collaborative initiatives;
- To assist in the translation of research findings into the clinic, the classroom, and industry;
- To coordinate applications for major funding and approaches to donors;
- To embrace Open Science at the institutional level and foster the development a community-driven Open Science framework for Western neuroscientists;
- To foster the adoption of EDI principles in recruitment, education, and research; and
- To mentor the next generation of neuroscience leaders, offering unique cross-disciplinary experiences.

Interim Director, Prof. Mel Goodale was appointed by the Vice President (Research), Lesley Rigg, in January 2021. Prof. Goodale worked closely with an appointed Steering Committee to strategically plan WIN's implementation. An overarching governance structure was formed based on the many discussions with Western Research, the WIN steering committee, and the consulting firm, Stiletto, which has considerable experience with the organizational structure of university institutes and programs. The organization chart below illustrates what emerged from those discussions.



1.1 – WIN Committees

In May 2022, the WIN Executive Committee (EXEC) was assembled based on nominations submitted by the neuroscience community. EXEC members are drawn from across the broad range of neuroscience research at Western, from cellular mechanisms to high-level cognitive function, and from basic research to application in the clinic, in education, and beyond. Moreover, members of the committee have all expressed a commitment to moving WIN forward for the benefit of not only the neuroscience community in London, but society at large. One of the first tasks of the EXEC will be to put together the Research Advisory Committee (RAC), made up of representatives from London's neuroscience community. The different scientific themes across the neuroscience community will have representation on the RAC, as will the participating Faculties, trainees, clinical departments, and other relevant neuroscience centres/groups. The EXEC will also work on assembling an External Advisory Council (EAC) that consists of stakeholders within and external to Western. More information about committee mandates, composition, etc. can be found at https://www.uwo.ca/research/impact/institutes.html under resource documents. In the longer term, the EXEC will also assemble the international scientific advisory board, which will consist of leading neuroscience researchers drawn from centres and institutes around the world.

1.2 – Upcoming Strategic Planning Process

The key challenge for the EXEC in 2022 will be developing WIN's comprehensive strategic plan including the identification of research priorities with advice from the Research Advisory Committee (RAC), the External Advisory Committee (EAC) and feedback from the broad community including investigators, trainees, and partners.

1.3 – Fundraising

One of the major tasks of WIN over the next years will be to work with Advancement Operations to identify and secure funding from donors and other sources – and coordinate such efforts across the University and the hospital foundations. There are a number of well-established neuroscience-oriented research groups on campus, including the Robarts Translational Neuroscience Group, Brain & Mind, the National Centre for Audiology, the Gray Centre for Mobility and Activity, the Centre for the Science of Learning, and others. These groups have their own local governance

structures and will continue to do so, even though they will all be part of the WIN family. Other research groups will undoubtedly self-assemble.

1.4 – Administrative Hub

WIN recruited an Administrative Officer, Florence Lourdes, who will lead WIN's central administrative offices located in the Western Interdisciplinary Research Building (WIRB) on Perth Drive. Although the offices will be in WIRB, WIN will represent the interests of neuroscience researchers across the campus and the city.

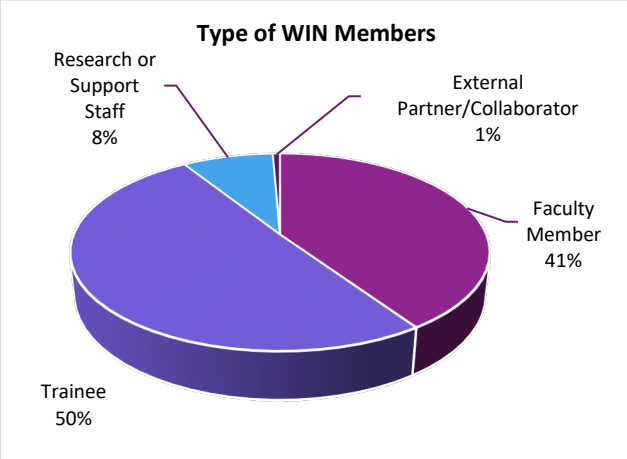
Section 2.0: Acceleration of Research Success & Innovation

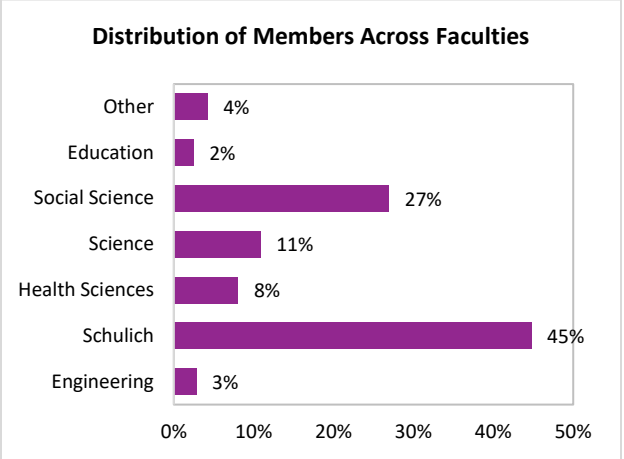
WIN aims to provide a framework that coordinates and unifies programs and activities across the neuroscience community to advance its mandate at Western and London region. This will elevate and accelerate impactful world-class research impact on human health, technology development, and education that would not otherwise be accomplished.

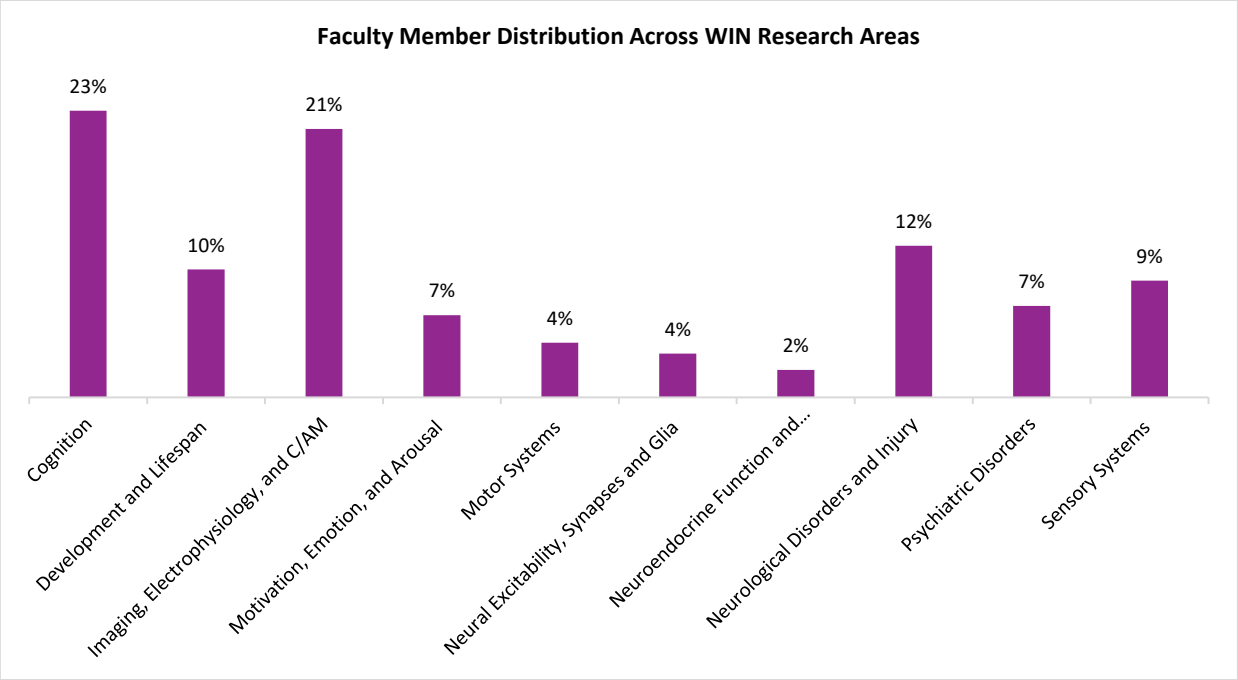
2.1 – Strength Through Interdisciplinarity - Our People

Membership Description

Neuroscience PIs were invited to self-identify and submit their profiles to the WIN administrative team. Membership will be reviewed every 5 years. The WIN membership platform opened in March 2022 and now includes 123 faculty members, 152 trainees, and 27 other members including: partners, collaborators, and staff. We anticipate that as the WIN launch becomes more visible through strategic planning exercises and with the implementation of additional programs and activities, additional neuroscientist and partners who are part of the broad neuroscience community will continue to upload their membership profiles. The graphics below display the types of members, distribution across partner Faculties, and alignment to WIN research areas/domains of members to date.







Prestigious Awards & Recognitions

WIN members hold a number of distinguished awards and honours, such as: 18 Research Chairs (1 Endowed/Industry-funded), 4 Fellows of the Royal Society of Canada, 1 Fellow of the Royal Society (UK), 1 Order of the British Empire, 4 NSERC E.W.R. Steacie Memorial Fellowships, 4 Distinguished University Professors, 18 Faculty Scholars, 2 Hellmuth Prizes for Achievement in Research, 1 RSC College for New Scholars, Artists, and Scientists, and 1 Richard C. Tees Award for Distinguished Leadership.

2.2 – Balancing Established & Emerging Priorities – Our Research Initiatives

WIN will be launching or partnering with other groups to deliver programs and services that support neuroscientist within this community. Programs and activities may include a grand challenges Think Tank Series, Catalyst Awards, a strategic funding program, post-doctoral or clinical fellowships, interdisciplinary graduate research awards, undergrad student scholarships, national/international planning meetings, conference sponsorships, a Showcase Series, workshops, seminars, research retreat, and/or trainee travel awards. To date, WIN has already made progress with an Open Science Framework, Fellowship Program, Undergraduate Student Research Internships, Neurotechnology Micro-credentials Program and SSMD MD/PhD Program.

Grand Challenges Think Tank Series

There is little doubt that research in neuroscience is already having an unparalleled and positive impact in the clinic, the classroom, and industry; WIN is well-poised to amplify those impacts over the next five years. Grand Challenges will be identified and prioritized this year through strategic planning and reflection by the EXEC with the support of RAC and EAC, as well as broad feedback from Western's large neuroscience community. RAC will then select priority Think Tank Series topics. The goal is to explore grand neuroscience challenges and find solutions by bringing

together transdisciplinary knowledge experts and diverse perspectives together to brainstorm (typically include 10-15 outstanding local, national, or international experts).

Open Science Framework

The term Open Science has many definitions, all related to the sharing of scientific resources including data, software, protocols, hardware, equipment and reagents in order to accelerate discovery. WIN sees Open Science as a key strategy to maximize the impact of our research on society, to enable collaborative endeavours, and to maintain our legacy of excellence and innovation in neuroscience. An integral part of our enterprise, a project to assess WIN Open Science needs, establish Open Science guiding principles, and to develop an Open Science implementation plan, has already begun with $100K of funding support received by the Tanenbaum Open Science Institute (TOSI) and matched by an additional $100K from BrainsCAN. Marco Prado and Ali Khan are leading this initiative with the assistance of Ryan Salewski, project manager and metrics analyst at BrainsCAN. There is a possibility of continuing support in coming years at $45K/year from TOSI should we be successful in setting an effective framework.

2.3 – Future Leaders Programs

Inaugural WIN Fellowship Program

WIN is committed to fostering collaborative research between basic and clinical researchers in neuroscience, bridging the gap between laboratory research and clinical practice. The Clinical Research / Postdoctoral Fellowship program was launched in November 2021 for this purpose and offers competitive 2-year fellowships for individuals with Clinical degrees or PhDs with co-supervision by a clinician and a basic scientist in neuroscience. This program allows Fellows to spend some of their time working in clinical setting, but the majority of their time focused on research. In the clinical setting, the fellows will have an opportunity to work with patients with neurological and related diseases and disorders and to gain direct experience working side-by-side with clinical faculty in neurology, psychiatry, medicine, radiology, pediatrics, anesthesiology and/or physical medicine and rehabilitation, at the Schulich School of Medicine and Dentistry and at London Health Sciences Centre sites. In the basic research setting, the fellows will gain experience working in one or more of Western's state-of-the-art core facilities and innovation platforms for neuroscience research. This year, an annual amount of $60,000 plus 13% benefits was awarded to each of the 3 successful applicants for a period of two years, for a grand total of $406,800 in support.

Undergraduate Student Research Internships

The Western Undergraduate Summer Research Internships (USRI) program provides undergraduate students with engaged research experiences and opportunities to learn new research methods and techniques alongside faculty mentors. It also helps develop skills in preparation for future careers. Together with Western Research, WIN sponsored 4 undergraduate student research internships this year totaling $20,700 in support over and above the Western Research funding support.

Neurotechnology Micro-credentials Program

Western University is partnering with Queen's University Centre for Neuroscience Studies on Neurotechnology Micro-credentials Program in which students who complete the program would get special access to neurotech industry recruiting efforts (facilitated by NeurotechX). WIN, together with Brian Corneil, Director of the Neuroscience Graduate Program, have been working

with the Queens University in finding ways to use the program to foster new and exciting directions in neuroscience research -- as well as tech transfer and applications to the clinic and education. The Capstone course at satellite sites is expected to start in Summer of 2023. More details at http://neuroscience.queensu.ca/academic/microcredentials.

SSMD MD/PhD Program

The MD/PhD Program at the Schulich School of Medicine & Dentistry, Western University is a well-established program that offers a combination of doctoral research and undergraduate medical training for a select number of students. Under the leadership of Dr. Denise Figlewicz (PhD), Vice-Dean, Research & Innovation, and overseen by the MD/PhD Committee, the program aims to train clinician scientists to become leaders in medical research and patient care. Currently, approximately twenty MD/PhD candidates are enrolled in the program and are engaged in a variety of exciting and innovative research programs. BrainsCAN has supported the program for the past 2 years and reported on truly exceptional candidates. WIN will explore how to best support this program in upcoming years. More details at https://www.schulich.uwo.ca/medicine/md_phd/.

3.0 – Communications

Website

The WIN website (https://win.uwo.ca/) is under development will be launched and then expanded in 2022 to reflect priorities identified during the strategic planning process.

Newsletter

Several newsletters have been circulated in 2021 to keep the Neuroscience community informed of WIN's developmental progress.

Month	Link
July	https://mailchi.mp/uwo/western-institute-for-neuroscience-newsletter-2?e=32bd9b8a34
September	https://mailchi.mp/uwo/western-institute-for-neuroscience-newsletter-september-2021?e=32bd9b8a34
October	https://mailchi.mp/uwo/western-institute-for-neuroscience-newsletter-4-october-2021?e=32bd9b8a34
November	https://mailchi.mp/uwo/western-institute-for-neuroscience-newsletter-5-novdec-2021?e=32bd9b8a34

WIN Financial Report

Below is an overview of actual costs for fiscal year '22 (May 2021 to April 2022) along with projections for the full five-year term of the institute core programing.

Revenues

Not all revenues listed in the projections are confirmed. Central ($250K annually) and partner support ($175K annually) are yet to be secured. The amount entered for projection purposes in based on initial discussions and assumptions at this stage. They are meant to serves as a demonstration of how funds would be used to support core programing. Faculty / decanal support has been secured for the full term of the institute totaling $150K annual. It is not anticipated that the WIN will host its own neuroscience conference and so there is no expectation that revenues

will be generated using Conference Fees. That said, event sponsorships may be sought to support local or partnered events. Due to the uncertainty with respect to this revenue source, projections were kept nil. To balance current anticipated core programs and activities, a placeholder was used with respect to fundraising, donations, and internal grants. This amount does not reflect what the WIN would need in order to grow and expand to achieve its goal of becoming one of the leading neuroscience institutes worldwide. Should any of the unconfirmed revenue sources include in these projections fail to materialize, we would be forced to cut programing starting with the catalyst grant program, interdisciplinary graduate research awards, undergraduate student scholarships and the post-doctoral/clinical fellowships.

Expenses

Expenses are primarily structured to create an environment that enables and supports interdisciplinary collaborations among members that have not naturally come together. In other words, they implement supports and services that bring experts from different disciplines, background and lived experiences together to start to examine grand neuroscience challenges from new perspectives. This includes: a) Member Initiatives & Events such as Think Tanks, Showcase Series, workshops, seminars, research retreats, the TOSI initiative, and other events; b) Strategic and Innovation Research Awards such as catalyst grants for new early-stage and high risk research project ideas, an innovation program to support entrepreneurship, a strategic funding program to enable timely action related to priority initiatives; c) a Future Leaders Program to develop the next generation of interdisciplinary neuroscientists via postdoc or clinical fellowships, interdisciplinary graduate research awards, and undergraduate student research internships; d) Research Meetings and Conferences to expand our reach and profile via national/international planning meetings, conference sponsorships, and trainee travel awards; e) Communications (website, advertisement, news items, and outreach events); f) Operating (equipment, services, supplies, and governance meetings) to maintain necessary workflow and presence; and finally g) Staff Compensation, for it would not be possible to offer these support and services without leadership and administrative support (associate director allowances, administrative officer, and research officer).

Budget Projection Table

	2021-22 (FY22) Actual Costs	2022-23 (FY23) Projected Costs	2023-24 (FY24) Projected Costs	2024-25 (FY25) Projected Costs	2025-26 (FY26) Projected Costs
Summary					
Cumulative surplus/deficit	0	398,155	2,436	2,891	3,515
In-year fund allocation from cumulative surplus	0	398,155	0	0	0
Revenues	600,000	973,155	1,025,000	1,235,000	1,320,000
Expenses	201,845	970,719	1,024,545	1,234,376	1,318,054
In-year surplus deficit	398,155	2,436	455	624	1,946
FUND BALANCE	398,155	2,436	2,891	3,515	5,461
AVAILABLE FUNDS					
In-Year Fund Allocation from Cumulative Surplus	0	398,155	0	0	0
Central Support	250,000	250,000 [a]	250,000 [a]	250,000 [a]	250,000 [a]
Faculty / Decanal Support	150,000	150,000	150,000	150,000	150,000
Partner Support	200,000	175,000 [a]	175,000 [a]	45,000 [a]	45,000 [a]
Conference Fees	0	0	0	0	0
Event Sponsorship	0	0	0	0	0
Fundraising /Donations/Internal Grants	0	0	450,000 [b]	790,000 [b]	875,000 [b]
TOTAL REVENUES	600,000	973,155	1,025,000	1,235,000	1,320,000
EXPENSES					
Member Initiatives & Events (Think Tanks, Showcase Series, workshops, seminars, research retreat, TOSI initiative, other events)	100,445	13,000	13,000	13,000	13,000
Strategic and Innovation Research Awards (catalyst grants, innovation program, strategic funding program)	0	350,000	350,000	360,000	410,000
Future Leaders Program (post-doc or clinical fellowships, interdisciplinary research awards, undergrad student scholarships)	1,400	380,700	380,700	380,700	400,700
Research Meetings and Conferences (national/international planning meetings, conference sponsorships, trainee travel awards)	0	15,000	15,000	15,000	15,000
Communications (website, advertisement, news items, outreach events)	0	6,000	6,000	6,000	6,000
Operating (equipment, services, supplies, governance meetings)	0	15,000	15,000	15,000	15,000
Staff Compensation (associate director allowances, admin officer, research officer)	100,000	191,019	244,845	444,676	458,354
TOTAL EXPENSES	201,845	970,719	1,024,545	1,234,376	1,318,054

a	Unsecured funds from central, TOSI and/or possibly BrainsCAN
b	Unsecured funds