DALHOUSIE UNIVERSITY

BRAIN REPAIR CENTRE

ANNUAL REPORT April 2021 - March 2022

BRAIN REPAIR CENTRE

THE BRAIN REPAIR CENTRE (BRC),
A DALHOUSIE UNIVERSITY INSTITUTE,
IS THE HUB FOR MEDICAL NEUROSCIENCE
RESEARCH IN EASTERN CANADA.

MISSION

PROVIDE PROGRAMS AND SERVICES
TO ADVANCE NEUROSCIENCE DISCOVERY,
IMPROVE NEUROLOGICAL CLINICAL CARE AND
CONTRIBUTE TO THE NOVA SCOTIA ECONOMY
THROUGH RESEARCH, INNOVATION AND
WORLDWIDE PARTNERSHIPS.

VISION

TO BE THE PREMIER NEUROSCIENCE
RESEARCH AND INNOVATION CENTRE
IN CANADA BY ATTRACTING THE BEST
NEUROSCIENTISTS IN THE WORLD
DOING RESEARCH IN NEUROLOGICAL
DISEASES AND DISORDERS.

MESSAGE FROM OUR DIRECTOR

Amidst the many ups and downs of the ongoing Covid-19 pandemic, the Brain Repair Centre had a successful year in 2021-22.

With much-anticipated vaccines made available in June, we were able to get our research back up and running in the second half of the year, with a quick course correction in December due to the onset of the Omicron variant. This required that we once again constrain research and move to virtual work, where feasible.

In one of the highlights of our year, we met our strategic objective to elevate our communications and ensure our virtual presence was relevant, accurate and compelling to a variety of audiences. To support these efforts, we were pleased to hire a Communications Assistant, grow our social media presence, and produce and launch a BRC video.

This year, thanks to funds from Dalhousie Medical Research Foundation (DMRF), we finalized our research collaboration project with Ben Gurion University. We have rolled out the terms for applicants, with submissions due in March 2022. We have no doubt that this important initiative will lead, in time, to further investment and important discoveries.

One of the BRC's main objectives is to support our student trainees with their important, ongoing research initiatives. To that end, and with funds generously provided by DMRF, we have finalized the application process to support five student trainees and are looking forward to announcing the awards in the new fiscal year.

We were very pleased and proud to learn that three BRC researchers, myself included, along with Dr. Alon Friedman and Dr. James Kramer, were granted CIHR awards this past fall. This is a testament to the high quality of neuroscience research being done at the BRC.

Much of the BRC programming was able to continue uninterrupted over the past year. Highlights included our Journal Clubs, the awarding of two Knowledge Translation grants, our annual Atlantic Mobility Action Project (AMAP) meeting and our annual Traumatic Brain Injury (TBI) meeting. After a hiatus of several years, we were also pleased to bring back the local Brain Bee competition.

Our Brain Awareness Week (BAW) activities were also successful this year, engaging our researcher community and Nova Scotia students across the province. An energetic core committee of trainees, led by Dr. Perrot, facilitated several events. Kudos to all!

The BRC is a vital and engaged group of researchers, trainees and technicians seeking to better understand and improve the lives of Nova Scotians and beyond for those dealing with neurological diseases and disorders. Our reach is local, national and international in scope, fostering connections with researchers, governments, non-government organizations and the public. We continue to seek investment to support the research and the education of our trainees, who are the future of this important work.

Our people and our work matter. The BRC works to nurture our members' scientific interests, support financial goals, make and deepen connections and, ultimately, drive neuroscience research. We look forward to continuing this important journey!

Finally, I am pleased to have been invited to provide testimony to the Standing Committee on Science and Research regarding Successes, Challenges and Opportunities for Science in Canada. My comments to the Committee included the need to focus on a strategy to address aging, and research related to the needs of the aging, and neuroscience research in vital areas, such as neurodegenerative diseases and disorders. Most importantly, my message to the Committee was that there is a need to significantly increase investment in this area to find cures and interventions to improve life for Canadians in their later years.

I look forward to this coming year, when I hope there will be more predictability to our research efforts and programming post pandemic.

Sincerely,

Dr. Victor Rafuse
Director, Brain Repair Centre

EXECUTIVE SUMMARY

This year, we once again rose to the occasion to continue to support neuroscience research amidst the throes of the Covid-19 pandemic. In response to the public health restrictions, the bulk of our work was executed online. The requirement to develop a virtual presence galvanized us to improve our communications, enhancing the way we provide information, describe our activities, profile our research and our research community, and share our content. With additional financial support, generously provided by the Minister of Advanced Education, matched by the BRC, we were able to hire a Communications Assistant. Coupled with this additional support, we invested in a video to introduce and tell our story through a variety of channels. It has been our ability to attract funding that has helped to enhance and diversify our programs and, ultimately, support our people which, in turn, facilitates important neuroscience research.

This past year, the groundwork was laid for two important projects to roll out over the coming year. First, several of our researchers will have the opportunity to collaborate with Ben Gurion University neuroscientists. The second project will see five trainees supported in their research efforts through stipends.

We successfully executed many of our BRC programs virtually due to the pandemic. This included Brain Awareness Week (BAW), Journal Clubs and Brain Bee. Our strategic plan provided the necessary foundation to guide us through these challenging times in our decision making and approach to managing the activities of the BRC.

An emerging strength of the BRC has been policy analysis as it pertains to science and research in Canada and, in particular, with respect to neuroscience. The BRC has laid a foundation that bodes well for its future.

YEAR IN REVIEW

HIGHLIGHTS FROM THE PAST YEAR INCLUDE:

- We rolled out a new approach to our communications strategy. Our enhanced website and content have driven more traffic to our site and broadened our audience. We have tripled our reach from just two years ago. We attribute this in part to a focused effort to share compelling stories about our research and people, including profiles of our Principal Investigators and trainees. A lot of this work has been facilitated with the support of our new Communications Assistant.

- In-person events were a challenge again this year, so we were very happy that our annual AMAP meeting was able to go ahead. It was well attended by trainees and Principal Investigators, a great opportunity for members to share their projects and deepen existing relationships.

- Journal Clubs were funded again this year and we awarded two Knowledge Translation grants.

- BRC received an award from Dalhousie Medical research Foundation (DMRF) for a collaboration between the BRC and Ben Gurion University (BGU), matched by BGU. A small working group has been working tirelessly to manage logistics, and, as a result, researchers from both institutions submitted project applications in late March 2022.

COMMUNICATIONS

Over the past year, we have invested manpower, time and financial resources in our new communications strategy. We launched a new website and hired a Communications Assistant, who has worked on several key projects, including Brain Awareness Week, assisted with video production, and developed numerous trainee profiles, which are posted on our website and social media channels.

The BRC's success is built on the outstanding research of our Principal Investigators, staff and trainees; their hard work is a big part of our story. We began sharing their research with our larger community through compelling researcher profiles developed from one-on-one interviews with BRC members, senior researchers, our trainees, technicians and staff who support the research. These profiles are used to highlight the important contributions being made across the BRC. We have many more members to profile, and we will be reaching out to them to continue to let people know about the great work being done across our neuroscience continuum.

Given that we were locked down twice in the past year, perhaps our greatest accomplishment was the production of a BRC video, which helps us articulate why the Brain Repair Centre is among the finest institutes in the world focused on brain research, innovation and education. The video can be viewed from the front page of our website and via our YouTube channel. This year we also invested in fresh and vibrant photography to support our storytelling on the website and on our social media channels.

Through third-party support from our communications partner, we were able to successfully rollout our communications strategy in a way that is relevant and engaging for our target audiences.

A concentrated effort to tell the BRC story through our website and social media has led to increased stakeholder engagement, a growth in social media presence, greater website traffic and a stronger awareness of our brand.

> Love your social media presence
>
> *- Canadian Association for Neuroscience*

BRC/BEN GURION UNIVERSITY (ISRAEL) COLLABORATION

We were thrilled to see the Dalhousie/Ben Gurion University (BGU) collaboration revived this year. BRC received funding from Dalhousie Medical Research Fund (DMRF), matched by BGU, to secure at least four collaboration projects. The BRC has established a working group with Ben Gurion to oversee this initiative. Decisions on which projects to fund will be determined through an international, arm's length panel. It is anticipated that results will be announced, awards made and projects underway in Spring 2022.

AMAP MEETING

We were very pleased to, once again, host The Action Mobility Action Project (AMAP) in Fall 2021. The event was held at White Point Lodge, where we welcomed many of the previous year's participants. We saw many trainees actively engaged during the event, contributing to the research, providing talks and participating in discussions.

The meeting was attended by 35 participants, including two Principal Investigators (PI) from UPEI and one PI and two trainees from UNB. Over the three days, there were 16 presentations, mainly delivered by our trainees, who shared their work over the course of four sessions. This year's guest speaker was Dr. Colin Franz, Northwestern University, the Director of the Regenerative Neurorehabilitation Laboratory at the Shirley Ryan AbilityLab, who spoke about his work treating patients diagnosed with Covid-19.

TBI CLUSTER EVENT

PATHOGENESIS OF NEUROLOGICAL DISORDERS: FROM BLOOD TO BRAIN AND BACK

This hybrid event took place on November 28 and 29, 2021 in Mitzpe Ramon, Israel. The retreat offered in-person and virtual presentations, connecting researchers and trainees located in Beer-Sheva, Leipzig and Halifax.

The two-day retreat opened with a welcome message and an overview of the program from Dr. Alon Friedman and continued with six sessions with specific themes:

1. Neurovascular interactions in health and disease
2. Blood-Brain Barrier (BBB) as a target in brain injury
3. Paroxysmal Slow Wave Events (PSWEs) in Epilepsy
4. Brain injury-induced spreading depolarization
5. BBB modulation in aging and
6. Imaging

Each session was chaired by a student trainee and included multiple talks, followed by a brainstorm section. After the last session, an open floor discussion summarized the findings and plan for future retreats and meetings.

DMRF STUDENT TRAINEESHIP AWARD

The objective of these awards is to provide five trainees (PhD students entering their third or subsequent year) with stable funding, so they can commit to finishing their PhD. Funding is to be spent over one to two years, for a maximum of $20,000.

The award supports the work of the BRC clusters (Neurodevelopment, Neurodegeneration, Mobility and Traumatic Brain Injury), so they continue to:

- Increase studentships and funding for trainees in labs within the BRC
- Reduce the burden on PIs, so they can maintain their lab research and/or develop new projects, and diversify their research teams
- Enhance the overall neuroscience graduate program

The success of this project will be measured by the number of stipends that are awarded. Trainees receiving the awards will be required to report annually on their activities, including progress on their projects, workshops they attend, publications they produce (if applicable), patents they have applied for (if applicable), etc.

CANADIAN BRAIN RESEARCH STRATEGY (CBRS) UPDATE

The mandate of the CBRS is to create a neuroscience-driven nationwide strategy. Canada must link together existing brain research initiatives and then maximize their potential through shared knowledge, infrastructure and data. CBRS, with its focus on open, collaborative and transdisciplinary brain research, provides the road map to take us there.

BRC Director, Vic Rafuse has continued his role on the CBRS steering committee this year. The group has a newly established secretariat, ensuring a commitment to the work and its continuity. The committee also sought and received a broader range of inputs, including neurological health charities, Indigenous Knowledge Holders and patients, and continued its ongoing discussion with early career researchers. Understanding and integrating the feedback from these central figures will best inform the overall approach and add to its credibility. Securing major investment from government for this brain research strategy for Canadians is a key driver of this initiative.

The steering committee met regularly online during the past year, and will finally meet in person at the Canadian Association of Neuroscience's (CAN) annual meeting in Toronto this May.

STANDING COMMITTEE ON SCIENCE AND RESEARCH

It has emerged that policy analysis is integrally important to our overall body of work at the BRC. As part of our ongoing participation on the CBRS, Dr. Rafuse was invited to provide testimony to the Standing Committee on Science and Research. The topic was Successes, Challenges and Opportunities for Science in Canada. This was an opportunity to address issues, such as geographical constraints within federal funding in research, the importance of neuroscience research writ large and the increase in neurodegenerative diseases and disorders in our growing aging population, domestically and globally.

BRC SUPPORTS OUR STUDENT RESEARCHERS

BRAIN WAVES GROUP

The Brain Waves group was set up in 2020 and thanks to ongoing funding support, we were able to continue the group in 2021-22. Bringing back alums to share their stories has proven popular with the current trainees, who are seeking guidance regarding their post-graduate plans.

In the summer of 2021, we consulted current trainees and appointed two representatives to assist with planning and communication of Brain Wave events. Tyler Wells was named BRC Executive Trainee Representative, while Pooyan Moradi undertook the role of Communications Representative.

We had planned events for Fall 2021 and were able to arrange one in-person activity in November, before remote operations resumed. This event featured three alums – Dr. Dylan Deska-Gauthier, Dr. Antonios Diab and Dr. Shannon Hall. Each of them spoke about their respective careers and how the skills they developed in science communications have advanced their careers and broadened their job prospects. The panel was moderated by our group representatives. More details of the event can be found on our website.

As trainees have seen value in these conversations, it is our intention to restart in-person events in the Spring of 2022.

TRAINEE ENGAGEMENT

In late 2021, the student leaders of the Vision Science Journal Club approached several groups at Dalhousie about the possibility of funding a trainee-only publication opportunity. As the Journal of Neuroscience was looking for submissions to their Journal Club collection of articles, trainees identified a recent paper entitled, “Global and Regional Damages in Retinal Ganglion Cell Axon Bundles Monitored Non-Invasively by Visible-Light Optical Coherence Tomography Fibergraphy” to submit as a Journal Club article for review. They were approved to provide a submission but, unfortunately, were not selected for publication. They had managed to raise the publication fee from multiple sources, including the BRC.

STUDENT REPRESENTATIVES BRAIN AWARENESS WEEK (BAW)

The Brain Awareness Week committee consists of a faculty member as chairperson, a representative from the BRC, at least one graduate student, and a number of undergraduate trainees. These positions are all voluntary and are a great opportunity for the trainees to develop their leadership skills. The trainees assist with communication and outreach, including web design and maintenance (hfxbaw.org), content creation (pictures, videos, other material), outreach and engagement of the Nova Scotia community, event promotion, volunteer recruitment and meeting attendance. This year, our committee included Faculty Chair, Dr. Tara Perrot, undergraduate representatives, Anna Minarik and Emma Zukow, graduate representative, Jack Guthrie, and members of the BRC staff, all of whom did a wonderful job organizing the 2022 Brain Awareness Week activities.

JOURNAL CLUBS

The BRC Journal Club program, previously held exclusively as in-person events, quickly adapted to an online format in 2021. All clubs have continued to meet virtually, and some were able to have in-person events in Fall 2021, before returning to an online format. There is interest from a group in the TBI cluster to start a new journal club, and once we return to in-person events, those activities will get underway.

These neuroscience-focused journal clubs illustrate the breadth of research being conducted across the Dalhousie University, Nova Scotia Health and IWK Health Centre community. We are encouraged by the cross-pollination of ideas, the new partnerships and opportunities to advance research and innovation, and the application of new knowledge that has arisen from the clubs.

BRC has awarded $1000 to each of the journal clubs annually to support guest speakers, host meetings and promote continued learning. The current journal clubs include the Atlantic Mobility Action Project, Interdisciplinary Science, Undergraduate Neuroscience, Vision Science, Acquired Brain Injury Club and the Insect Super Club. It is worth noting that the Undergraduate Club has been much more active this year than in the past, which bodes well for the future and we hope to see many participants become graduate trainees.

Details for all journal clubs can be found on the BRC's website.

GRANTS AND AWARDS

KNOWLEDGE TRANSLATION GRANTS

Every year, the Brain Repair Centre awards peer-reviewed Knowledge Translation (KT) Grants to help researchers further develop their research and innovation, with a view to moving them further along the path towards commercialization. Since the BRC began distributing this funding, nine years ago, the KT Grants have helped researchers leverage additional funding, allowing them to further develop their research while contributing to Nova Scotia's economy.

In March 2022, the BRC awarded KT Grants to two projects. The awards went to Dr. Sean Christie, for his project, Understanding Spinal Cord Blood Flow After Traumatic Injury and Dr. Victor Rafuse, for his project, Unravelling Schwann Cell Diversity in Healthy and Injury Peripheral Nerve.

CIHR OPERATING GRANTS

Congratulations to three of our BRC members – Dr. Alon Friedman, Dr. James Kramer and Dr. Victor Rafuse, who were each awarded Canadian Institutes of Health Research (CIHR) operating grants. These awards offer great validation of the outstanding neuroscience research being done at the BRC!

PROGRESS/UPDATES ON KT GRANTS AWARDED IN 2021

Dr Steven Beyea

Title: Optimized MRI Acquisition & Reconstruction Technologies for Screening MRI in Emergency Medicine: An Innovation Partnership with Synaptive Medical

With the help of the BRC-KT grant, Dr. Beyea was able to begin scans using an MRI system. To date, Dr. Beyea was able to acquire data on 10 stroke patients, 15 internal auditory canal patients and four patients receiving a study of the orbits. The data was used to submit two abstracts to the 2021 International Society for Magnetic Resonance in Medicine. The data is also being used to support the studies of four trainees.

Dr. Aaron Newman

Title: Speech Recognition-Based App for Aphasia Rehabilitation

The goal of this project was to develop and commercialize an effective and engaging software platform for aphasia therapy. Progress was made in developing and testing the usability of the prototype (a functioning gaming platform) and conducted usability testing with people with aphasia. The BRC award was instrumental in their progress over the last year, helping position them to apply to the Innovacorp Early Stage Commercialization Fund. Next steps include working to improve upon the design of the first prototype and ensuring that the game platform and the speech recognition server can scale up to a level that allows simultaneous usage by a large number of users. The group are currently investigating the intellectual property landscape with a view to submitting a patent. They also plan to submit an article to present the results of the usability study described above in Summer 2022.

Dr. James Kramer

Title: Development of humanized fly models for neurodevelopmental disorders

The purpose of this project was to create and test humanized Drosophila models for neurodevelopmental disorders that can be used in future studies directed towards drug discovery. The BRC-KT grant was used to fund partial salary for a research associate and an NSERC USRA student, who implemented a sophisticated cloning strategy to integrate the human protein coding sequence into the orthologous Drosophila gene. This project has been proceeding successfully and is nearing completion. If novel humanized fly models are successful, this study will have a high impact towards understanding and treating neurodevelopmental disorders. This funding has also helped to strengthen a key collaboration and, if successful, will result in a patent application and publication. It's important to note that this work can also serve as proof of principle for future grant applications and has helped Dr. Kramer to secure long-term CIHR funding by demonstrating his lab's dedication to the translation of basic science into clinical applications.

Dr. George S. Robertson

Title: Development of an intranasal nanoparticle formulation of IRX4204 designed to promote functional recovery in multiple sclerosis by stimulating CNS repair mechanisms

A new drug candidate for MS that should aid in functional recovery of patients is being developed. It will stimulate the production of myelin producing oligodendrocytes. (Myelin acts to insulate nerves and is damaged in MS). This work is challenging, as the drug needs to be formulated to be administered intranasally. Once that is resolved, it is necessary to evaluate this drug candidate for safety and efficacy. This work is continuing beyond the initial time frame and into 2022 due to restrictions on research imposed by Covid-19.

REPORTS ON 2020 GRANTS THAT WERE EXTENDED DUE TO COVID-19

Dr. Gail Eskes

Title: Attention Training: Development and validation of SpyTrain, a web-based attention training tool in the Cognitive Repair Kit

This project targeted the software development and validation of a web-based and game-like tool, SpyTrain, to use for neurorehabilitation of individuals with impaired attention. To date, the SpyTrain software and server platform have been updated and data analytics have been migrated to a more user-friendly format. The final part of this project, validation, is underway as clinical research restrictions due to COVID are loosening and research is resuming. Staff paid from these funds included a part-time software engineer, a part-time data analytics specialist and a research assistant.

Dr Angelo Iulianella

Title: A genetic method to scale neural organoid tissue size for disease modeling and cell replacement therapies

The team has been testing the single sequencing technology but due to the time frame for generating tissues to test organoid scaling methodology (6 to 8 months), they have yet to optimize the stem cell cultures. It should also be noted that due to the pandemic shutdown affecting the procurement of tissues (from colonies of transgenic mice) this project is still continuing. Dr. Iulianella hopes to have results later this summer.

RESEARCH, DISSEMINATION & COMMERCIALIZATION (RDC) GRANTS

The BRC RDC program supports events and meetings that contribute to the dissemination, exchange and commercialization of research and innovation aimed at improving brain and neurological health outcomes for Nova Scotians and Canadians. The main objective of this funding opportunity is to enhance the international reputation of the Halifax neuroscience community by supporting local events and meetings that will attract international, national and local participants and, as a result, highlight intellectual property (IP) for potential investment opportunities in Nova Scotia.

The 2021/22 RDC grant was deferred from the planned event in 2020, due to the fact that the award given was for an in-person meeting, which could not be held due to the pandemic. As we are now in a position to hold in-person meetings, the RDC-sponsored event will take place in June 2022.

SPONSORSHIP

We accepted a new opportunity to promote the BRC, which has benefitted from hosting the WiFi sponsorship at the annual meeting of the Canadian Association for Neuroscience. We have increased our visibility both domestically and internationally through these efforts.

INTELLECTUAL PROPERTY (IP) PROGRAM MENTORING PILOT

This program was initiated in March 2021 and now that we have completed the pilot program, we can report on the activity and outcomes.

The results of our IP Pilot program were consistently positive. Those who participated have either been awarded a KT Grant or have been affiliated with a grant. We held a couple of seminars and participants chose many topics for discussion. Results of our survey concluded that the sessions regarding IP and commercialization were helpful. Further, several one-on-one sessions were held to probe specific issues in depth as it was not appropriate to divulge commercially confidential information. This resource was made available at no cost to our participating members as an added benefit.

We are currently considering whether or not we continue this program, due to budget constraints, as there is a cost to securing the expertise.

BRAIN AWARENESS WEEK (BAW)

Brain Awareness Week 2022 was, once again, a mainly virtual event. The highlight was a single in-person event which was the inaugural Slam Your Neuro(Science)! The Slam was the first-ever competition of its kind at the BRC.

The objective of the Slam was for students to present their research in an engaging, clear and concise way in order to communicate science research to a wider audience. Undergraduate students enrolled in neuroscience-focused independent research projects were invited to take part and were scored on presentation, timing and clarity of communication to the audience.

Winners of the 2022 SLAM were:

Rachel Gibbs (Supervisor: Dr. Leslie Phillmore)
Ernest Ng (Supervisor: Dr. Shaun Boe)
Jersey Smith (Supervisor: Dr. Sophie Jacques)
Shima Dolek (Supervisor: Dr. Sean Barrett)

As part of this year's BAW, we organised a number of online resources. The main event of the week is usually the Brain Fair, however, this year, instead of an in-person meeting, we engaged many of the labs at the BRC to produce videos describing what they do, with the intention of creating awareness for neuroscience research.

BAW offered something for all ages:

LABS TOURS

- A link to a series of interviews with trainees and our recent BRC video offered students a glimpse of what research really looks like and can be viewed at https://www.hfxbaw.org/lab-tours

NEUROSCIENCE AS ART

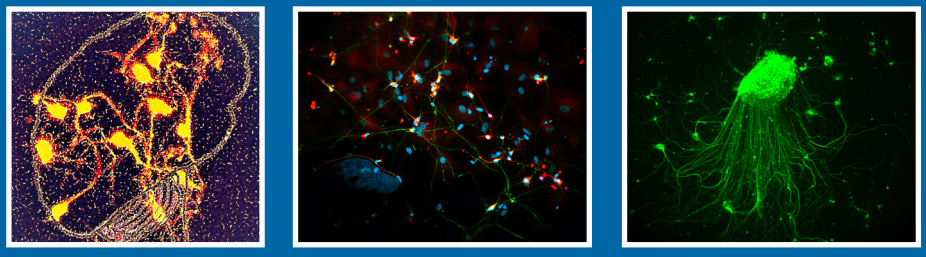
- Neuroscience As Art - recognizing that neuroscience-related research can generate brilliant, artistic images, and that the field of neuroscience can inspire artists to create stunning works of art that showcase the complexities of the brain and its components, we requested submissions, which were then printed and sold via online auction
- The BRC continues to work with local societies and students to increase awareness of brain-related research. The funds raised from the auction were donated to the Epilepsy Association of the Maritimes for a total of $325.
- The winning images can be found at **https://www.hfxbaw.org/auction**

SCHOOL COMPETITIONS

- A competition for all grade levels, including colouring pages and an opportunity to create neurons from pipe cleaners and other household items, offered a chance to win a neuroscience-themed prize pack. Submissions were electronic photos of their creations. Winning students were from the following schools:
  - P-2: Fairview Heights Elementary (Individual)
    Winding River Consolidated (Class Prize)
  - 3-5: Middle River Consolidated (Individual)
  - 6-8: Dartmouth South Academy (Individual)

BRAIN BEE

- Our annual Brain Bee was held in June 2021 as a virtual event. In 2022, it will be held as an in-person event on April 29. Registrations for this event have come from all across the province with representation from high school grades (9 and up).



2022 Neuroscience as Art winners.

COLLABORATION

Collaborations among several leaders of Dalhousie Research Institutes have taken place over the past couple of years. The objective of which is to streamline operations for the Institutes. Dalhousie institute heads taking part include:

Dr. Sara Kirk- Scientific Director, Healthy Populations Institute
Dr. John Archibald- Director, Institute for Comparative Genomics
Dr. Gerry Johnston- Scientific Director, Beatrice Hunter Cancer Research Institute
Dr. Victor Rafuse- Director, Brain Repair Centre

Discussion topics include how to support new and early career researchers, tackling big societal problems through the combined abilities of these bodies of researchers, and tapping into platforms, expertise, large data capture and health policies. Further, there is a challenge to collectively find strategies to best promote, mobilize and support our institutes. Fundraising, advocacy and communications are also key to success.

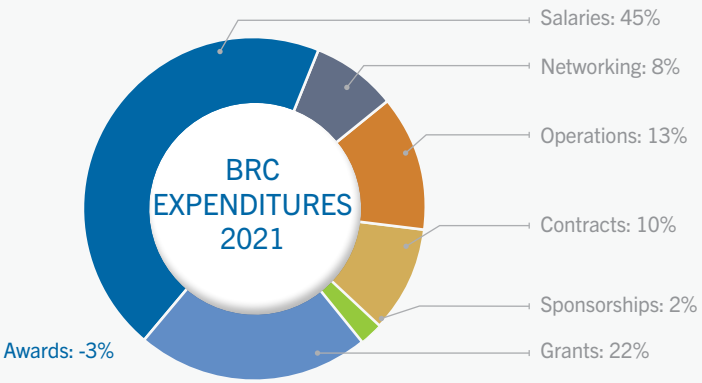
The Brain Repair Center welcomes these opportunities for collaboration, finding ways to streamline operations and, most importantly, ensure that neuroscience research has every opportunity to flourish.

RESOURCES

The BRC must constantly consider how to grow its access to external funding. Many grants for which we might qualify are significant efforts in terms of our time and resources, such as the Natural Sciences and Engineering Research Council Collaborative Research and Training Experience program (NSERC CREATE) grants and Canadian First Research Excellence Fund (CFREFS) applications.

While these examples are for federal funding, and they are competitive grants, it is never a given that one will succeed. There are provincial programs, and we have researchers who have been successful in various awards. However, in order to drive our research agenda and ramp up our collective efforts in neurologic diseases and disorders we need substantive investment. We will keep managing our resources well to ensure we are pursuing the opportunities with the best return on investment to support our ongoing success.

APPENDIX A: FINANCIALS 2020-21



EXPENSES		ACTUAL	
Payroll	Payroll + Benefits	$	160,138
Operational Expenses	Office Supplies	$	418
	Printing	$	1,020
	Equipment Purchase	$	1,443
	Meetings - general	$	226
	Utilities	$	1,645
Networking	Travel & Registration	$	2,316
	Cluster Conferences	$	12,588
	Promotional	$	5,000
	BAW	$	5,973
	Journal Clubs	$	2,668
External Contractors	Communications, Design, Research	$	32,978
	Grant Review Committee	$	1,500
Student Awards	Competitions	$	950
Sponsorship	Local Societies (ALS, Alzheimer, BIANS, Epilepsy and MS)	$	5,000
	Promo items	$	999
Grants	Knowledge Translation Grants	$	70,000
	Research, Dissemination & Commercialisation Grant	$	10,000
Total Expenditure		$	314,860
INCOME			
Dalhousie		$	65,000
Dept. of Advanced Education		$	250,000
Dept. of Advanced Education (Comms Assistant)		$	11,000
TOTAL INCOME		**$**	**326,000**

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