



The following Motion and Document were considered by the GFC Academic Planning Committee at its Wednesday, May 14, 2014 meeting:

Agenda Title: **Proposal for the Rescoping and Renaming of the Centre for Neuroscience as the Neuroscience and Mental Health Institute (NMHI) (to be Housed in the Faculty of Medicine and Dentistry)**

CARRIED MOTION: THAT the GFC Academic Planning Committee approve, under delegated authority from General Faculties Council, the proposal submitted by the Dean of the Faculty of Medicine and Dentistry for the rescoping and renaming of the Centre for Neuroscience as the Neuroscience and Mental Health Institute (NMHI), to be housed in the Faculty of Medicine and Dentistry, as set forth in Attachments 1 – 4, to take effect upon final approval.

Final Item: 4.

OUTLINE OF ISSUE

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Motion: THAT the GFC Academic Planning Committee approve, under delegated authority from General Faculties Council, the proposal submitted by the Dean of the Faculty of Medicine and Dentistry for the rescoping and renaming of the Centre for Neuroscience as the Neuroscience and Mental Health Institute (NMHI), to be housed in the Faculty of Medicine and Dentistry, as set forth in Attachments 1 – 4, to take effect upon final approval.

Item

Action Requested	<input checked="" type="checkbox"/> Approval <input type="checkbox"/> Recommendation <input type="checkbox"/> Discussion/Advice <input type="checkbox"/> Information
Proposed by	Douglas Miller, Dean, Faculty of Medicine and Dentistry
Presenters	David Evans, Vice-Dean (Research), Faculty of Medicine and Dentistry; John Greer, Professor of Medicine and Director, Centre for Neuroscience, Faculty of Medicine and Dentistry; Xin-min Li, Professor and Chair, Department of Psychiatry, Faculty of Medicine and Dentistry; Sanjay Kalra, Associate Professor, Division of Neurology, Department of Medicine, Faculty of Medicine and Dentistry
Subject	Renaming and Rescoping of the Centre for Neuroscience as the Neuroscience and Mental Health Institute (NMHI) in the Faculty of Medicine and Dentistry at the University of Alberta

Details

Responsibility	Provost and Vice-President (Academic)
The Purpose of the Proposal is (please be specific)	<p>“This proposal is a request of the [GFC] Academic Planning Committee [APC] to increase the research, training and governance scope of the existing ‘Centre for Neuroscience’ and to re-name the Centre the ‘Neuroscience and Mental Health Institute’ (NMHI) to reflect this broader mandate.</p> <p>The strategic purpose of the proposed NMHI at the University of Alberta is two-fold:</p> <ul style="list-style-type: none"> • To provide the organizational framework and support necessary to pursue advances in translational science in the overlapping interdisciplinary areas of neuroscience and mental health. • To solidify and brand the identity of UAlberta’s strong research and educational programs in neuroscience and mental health and markedly improve philanthropic support, large-scale group funding, and ‘presence’ within the national and international neuroscience and mental health research community. <p>The proposed NMHI will capitalize on the University of Alberta’s established and emerging excellence in neuroscience and mental health (including addiction) across the four pillars of activity identified by the Canadian Institutes of Health Research (CIHR): biomedical; clinical; research respecting health systems and services; and the social, cultural and environmental factors that affect the health of populations.</p> <p>By providing a fertile translational research context for the interchange of</p>

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	ideas and activities along the continuum of 'basic science to clinical application to community,' the proposed NMHI will pursue the translation of innovation for advancing brain and nervous system health. This will be achieved by enabling active collaboration among Institute members, together with our partners in health delivery and individuals with lived experience of neuroscience/mental health-related disorders and their families and respective communities of care." (Excerpt from the proposal provided by the Dean of the Faculty of Medicine and Dentistry, as attached.)
The Impact of the Proposal is	See 'Purpose' and the attached proposal.
Replaces/Revises (eg, policies, resolutions)	N/A
Timeline/Implementation Date	Upon final approval.
Estimated Cost	See attached proposal.
Sources of Funding	See attached proposal.
Notes	N/A

Alignment/Compliance

Alignment with Guiding Documents	<i>Dare to Discover, Dare to Deliver</i> , and the University of Alberta Comprehensive Institutional Plan (CIP)
Compliance with Legislation, Policy and/or Procedure Relevant to the Proposal (please <u>quote</u> legislation and include identifying section numbers)	<p>1. Post-Secondary Learning Act (PSLA): The <i>Post-Secondary Learning Act (PSLA)</i> gives General Faculties Council (GFC) responsibility, subject to the authority of the Board of Governors, over "academic affairs" (section 26(1)). Section 26(1)(o) provides that GFC may make recommendations to the Board of Governors on a number of matters, including "the budget" and "academic planning." GFC has thus established an Academic Planning Committee (GFC APC), as set out below. GFC delegates certain of its powers to the GFC Academic Planning Committee.</p> <p>The complete wording of the section(s) of the <i>PSLA</i>, as referred to above, and any other related sections, should be checked in any instance where formal jurisdiction or delegation needs to be determined.</p> <p>2. University of Alberta Policies and Procedures On-Line (UAPPOL) Academic Centres and Institutes Establishment Procedure:</p> <p><u>PROCEDURE</u></p> <p>1. The proposal to establish an academic centre or institute must define its vision and purpose, explain the need for the unit within the priorities of the Faculty and/or University, and demonstrate that the proposed Centre/Institute does not duplicate other efforts at the University. Centres and Institutes are expected to position the University of Alberta as a national and international leader, therefore, the proposal must demonstrate the established or emerging excellence of the group of faculty involved, and the qualifications of the proposed director. The benefits and risks to the University must be presented, and support from partners within and outside the University must be documented.</p> <p>[...]"</p>

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	<p>3. University of Alberta Policies and Procedures On-Line (UAPPOL) Academic Centres and Institutes Operation Procedure:</p> <p>“[...]”</p> <p>3. PROPOSALS FOR MAJOR CHANGES TO ACADEMIC CENTRES OR INSTITUTES</p> <p>All proposals for major changes to academic centres and institutes shall be submitted to the Academic Planning Committee (APC) for approval. Where there is a question or dispute regarding whether or not a proposed change to a centre or institute is major, the Provost and Vice-President (Academic) will make the determination after consulting with the Vice-President (Research) and other appropriate parties.</p> <p>[...]”</p>
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Routing (Include meeting dates)

Consultative Route (parties who have seen the proposal and in what capacity)	The consultative route this proposal has taken is outlined in the attached documentation and is reflected in the attached letters of support. In addition, Murray Gray, Vice-Provost and Associate Vice-President (Research) and Chair of the Centres and Institutes Committee (CIC) (Office of the Provost) was consulted. CIC members reviewed the document in April, 2014, as did members of the University Initiatives Committee (UIC). Advice and recommendations from Dr Gray, CIC, and UIC have been incorporated in the proposal submitted to GFC APC.
Approval Route (Governance) (including meeting dates)	GFC Academic Planning Committee – May 14, 2014 (for final approval)
Final Approver	GFC Academic Planning Committee – May 14, 2014

Attachments (each to be numbered 1 - <>)

1. Attachment 1 (pages 1 – 2) Covering Letter from Dean Douglas Miller, Faculty of Medicine and Dentistry
2. Attachment 2 (pages 1 – 26) - Proposal for the Rescoping and Renaming of the Centre for Neuroscience as the Neuroscience and Mental Health Institute (NMHI) (to be Housed in the Faculty of Medicine and Dentistry)
3. Attachment 3 (pages 1 – 2) - Budget Document
4. Attachment 4 (pages 1 – 15) - Letters of Support

Prepared by: Cindy Watt, Committees Manager, Office of the Provost and Vice-President (Academic), cindy.watt@ualberta.ca

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April 28th, 2014

Academic Planning Committee
University of Alberta
Edmonton, AB

Dear Colleagues,

RE: Neuroscience and Mental Health Institute (NMHI)

Please find attached our proposal to UAlberta's GFC Academic Planning Committee (APC), requesting an increase the research, training and governance scope of the existing 'Centre for Neuroscience', commensurate with re-naming of the Centre as the '*Neuroscience and Mental Health Institute*' (NMHI).

The broader NMHI mandate builds on existing capacities in neuroscience and mental health research across the University in order to create new synergies, build on existing strengths and enhance the profile of the University's neuroscience and mental health communities. The NMHI will provide a framework for increased interactions and greater access capabilities for the component research entities affiliated with the NMHI (e.g., Centre for Prions and Protein Folding Diseases; Neurochemical Research Unit; Multiple Sclerosis Centre; Peter S. Allen Magnetic Resonance Research Centre; Rehabilitation Neurosciences Group).

NMHI is designed to foster trans-disciplinary interactions at all levels of research (from Pillar 1 through to Pillar IV) and to *accelerate* the translation of discoveries and innovations for health and economic benefit. Closer ties between neuroscience and mental health researchers will be a major advantage of the NMHI, allowing for significantly greater collaborations and scientific impact.

The NMHI purposefully combines the disciplines of neuroscience and mental health into a single entity. A combined institute recognizes that: i) there are significant co-morbidities between primary neurological/neurosurgical and psychiatric disorders (e.g. 1/3 of victims of stroke will develop depression); ii) there is a significant overlap in fundamental and applied basic science knowledge among the disciplines (e.g. neurotransmitter metabolism); iii) similar questions exist due to common gaps in knowledge; and iv) many questions can only be tackled using shared

expertise and research platforms (e.g. neuroimaging).

The organizational framework of the NMHI will also position our university for greater success in the new national funding environment for large-scale 'translational' and 'big science' funding awards, including new CIHR Foundational Grants. Such major awards require the development of functioning, multidisciplinary teams – the NMHI will play a major role in fostering the collaborations and research capabilities necessary for success in this new funding landscape.

The NMHI will focus its efforts on three broad research themes that incorporate a range of neurological and mental health diseases, and that span the translational continuum from basic discovery to applied research. NMHI members will have access to novel research platforms (as necessary) to undertake a more comprehensive approach to translational research. NMHI will also enhance existing education capabilities (please refer to the proposal for detail), and will include mechanisms for public dissemination of clinical and preventative advances.

By operating in this way, the NMHI will be at the forefront of discovering, developing and translating scientific knowledge into new treatments and approaches to address the health needs of patients afflicted with neurological and/or mental illnesses.

The Faculty of Medicine & Dentistry is committed to this NMHI vision, and is therefore providing financial support for the institute. Over the first 3 years of NMHI operations the FoMD will fund up to \$750K/year for 3 years totaling up to \$2.25 M over 3 years. NMHI leadership will be expected to leverage this initial investment with provincial & national funding awards and partnering opportunities. As a translational science institute (TSI), the NMHI is also a fund-raising priority for the Faculty and University, with the goal of garnering philanthropic support and securing a 'naming endowment'.

We look forward to discussing the strategic positioning and value of this important University initiative. Thank you for considering this request.

Sincerely,



D. Douglas Miller, MD, CM, MBA, FRCPC
Dean, Faculty of Medicine & Dentistry
University of Alberta

University of Alberta Template for Proposals to Establish New Academic Centres and Institutes

Proposers will complete and submit this template to the Office of the Provost for approval in accordance with UAPPOL Policy. This template is expandable; the completed template may be up to 8 to 10 pages in length (not including letters of support or other appendices relevant to the proposal). Before developing a proposal and completing this template, please review the UAPPOL Centres and Institutes Policy, as well as associated procedures for academic centres and institutes – www.uappol.ualberta.ca.

Name and Faculty of Reporting Dean: D Douglas Miller, Faculty of Medicine & Dentistry

Signature: 

Date: 30 April 2014

1. Name and Detailed Purpose of the Proposed Centre or Institute:

This proposal is a request UAlberta's Academic Planning Committee to increase the research, training and governance scope of the existing 'Centre for Neuroscience' and to re-name the Centre the '**Neuroscience and Mental Health Institute**' (NMHI) to reflect this broader mandate.

The strategic purpose of the proposed NMHI at the University of Alberta is two-fold:

- To provide the organizational framework and support necessary to pursue advances in translational science in the overlapping interdisciplinary areas of neuroscience and mental health.
- To solidify and brand the identity of UAlberta's strong research and educational programs in neuroscience and mental health and markedly improve philanthropic support, large-scale group funding, and 'presence' within the national and international neuroscience and mental health research community.

The proposed NMHI will capitalize on the University of Alberta's established and emerging excellence in neuroscience and mental health (including addiction) across the four pillars of activity identified by the Canadian Institutes of Health Research (CIHR): biomedical; clinical; research respecting health systems and services; and the social, cultural and environmental factors that affect the health of populations.

By providing a fertile translational research context for the interchange of ideas and activities along the continuum of 'basic science to clinical application to community,' the proposed NMHI will pursue the translation of innovation for advancing brain and nervous system health. This will be achieved by enabling active collaboration among Institute members, together with our partners in health delivery and individuals with lived experience of neuroscience/mental health-related disorders and their families and respective communities of care.

UAlberta is well known for its research excellence in neurosciences. Several distinct groups of neuroscientists with extensive research interactions (as evidenced by established group grants and co-authorship of published work) are established at our university. Historically, their work has been fostered under the umbrella of the 'Center for Neuroscience'. As shown by the Faculty's recent 'neuroscience and mental health asset survey' (reviewed in a later section) there is significant potential to expand upon this collaborative, from within and across the neuroscience sub-disciplines, as well as to include researchers whom were previously unaffiliated with the Centre. In particular, closer ties between neuroscience and mental health researchers will be a major advantage of the NMHI format, allowing for greater collaborations and impact.

The other major opportunity arising with formation of the NMHI is increased interaction between foundational and clinical neuroscience researchers. The Centre for Neuroscience has a well-established core in the former but extension into translational clinical and community-based research and activities will be better realized within the Institute structure and mandate.

The activities of the proposed NMHI will include training programs, basic and clinical research, knowledge translation, knowledge dissemination and implementation of health evidence in communities of practice. In this way, the Institute will serve its members and their external partners in research, clinical service and the community. For continuing demonstration of excellence in the current strategic climate (provincially, nationally and internationally), activities of the NMHI will also include strategic patient-oriented engagement with patient advocacy organizations and with people who have lived-experience of brain, spinal cord, and peripheral nerve disorders.

Although the proposed NMHI will be inclusive, international recognition at a high level of excellence will require sustained emphasis on high impact, patient-relevant key focal areas and leadership in the formation of excellent strategic research clusters (based on a combination of bottom-up and top-down processes for choice and resourcing). Key focal areas and funding/partnership opportunities will be identified by members of NMHI whom are internationally recognized for work in:

Systems Neuroscience and Neurology

- Spinal Cord and Brain Injury and Rehabilitation
- Degenerative and Inflammatory Diseases of the Nervous System

Mental Health and Addiction

- Schizophrenia and Mood Disorders
- Substance Misuse and Addiction

The proposed institute embraces the disciplines of neuroscience and mental health in a single entity. This is in contrast to and an advantage over most existing institutes that support only one or the other. A combined institute recognizes that: i) there are significant co-morbidities between primary neurological/neurosurgical and psychiatric disorders (e.g. 1/3 of victims of stroke will develop depression); ii) there is a significant overlap in fundamental and applied basic science knowledge (e.g. neurotransmitter metabolism); iii) similar questions exist due to common gaps in knowledge; and iv) these questions can be tackled using shared expertise and research platforms (e.g. neuroimaging).

NMHI will also include the vibrant inter-faculty-based Honours Neuroscience Undergraduate degree and Graduate Neuroscience programs and courses that are recognized as amongst the best at our university. Existing undergraduate and graduate and residency (& subspecialty) training elements from psychiatry and the clinical neurological sciences will also augment the institute's training programs. The NMHI will consist of over 200 members including neuroscientists, neurologists, neurosurgeons, psychiatrists, mental health specialists, counselors, rehabilitation specialists, caregivers, students, post-doctoral fellows, research associates, and technicians. In comparison to the current Centre for Neuroscience membership, there will be a proportionally increased number of clinical investigators, allied health workers, and public health physicians. This will be an important element to support translation of discoveries from bench to bedside and in the training of highly qualified personnel across neuroscience and mental health disciplines.

Thus, the overall NMHI goals are to:

- Connect people and assets at UAlberta
- Create, support, and translate discovery science programs
- Acquire and sustain necessary infrastructure to support research programs of NMHI members
- Increase the scientific and funding competitiveness of UAlberta's neuroscience and mental health researchers
- Deliver impact on neuroscience diseases/injuries, patients, and society at large
- Train the next generation of neuroscience and mental health researchers and clinicians
- Advocate for support of neuroscience and mental health research

2. Provide a statement of the priority of the proposed centre or institute within the overall priorities of the Faculty and/or the University of Alberta. Include a statement of benefits the University of Alberta could expect to receive through creation of the proposed centre or institute, including benefits to students.

Faculty of Medicine & Dentistry Priorities – Creation of Translational Science Institutes (TSI's)

At the institutional, provincial and national levels, efforts to advance foundational scientific discoveries into use in clinical practice—so-called 'bench to bedside' translational science—have become a primary focus of many researchers and granting agencies. Successful translational science requires a comprehensive approach that brings together experts from all research fields along the basic discovery to application continuum in the search for new scientific knowledge and potential medical cures.

Further, addressing the challenges implicit to converting massive scientific datasets (e.g., genomic information) into pre-clinical testing, clinical trials and meaningful use in medical practice requires research teams that bridge multiple institutions, as well as '-omics', imaging, computing & drug design platforms (e.g., advanced technologies plus highly qualified personnel to run them). Because these areas of expertise cross so many disciplines this type of research activity is not something that traditional

departmental structures or even faculty structures are well equipped to support on their own.

To face these challenges, the Faculty of Medicine & Dentistry is developing three new Translational Science Institutes (TSI's) designed to seize the many current opportunities in Translational Medicine. We have identified (1) cancer, (2) neuroscience & mental health, and (3) cardiovascular sciences as areas of extant research expertise and focus over the next four years.

Primary goals in creating the TSIs are to increase the funding competitiveness of our faculty/university and accelerate the translation of biomedical discoveries into improved human health. This priority is outlined in the Faculty's new strategic plan¹ that identifies targets for aggressive research growth for 2014-2017 that emphasize translational science. As noted in the plan, the TSI's are also the Faculty's priority areas for pursuing philanthropic investment. This will be done in collaboration with the University's central advancement office.

The Faculty will provide strategic investment into each of the TSI's at a maximum of \$750K/year for 3 years to support translational research themes. Specific requirements for receipt of Faculty funding for TSI's are outlined in **Appendix 1**.

The TSI strategy will improve alignment of UofA's bio-medical research portfolio with federal funding envelopes. The University of Alberta has performed well relative to its peers on large national infrastructure awards, e.g., Canada Foundation for Innovation (CFI). However, UAlberta has not garnered its fair share of large "big science" operating awards from agencies such as Genome Canada (GC), Networks of Centres of Excellence of Canada (NCE) competitions and Brain Canada. We hope to improve our success on future national 'big science' operating awards by optimizing research efforts and infrastructures under the umbrella of a 'translational science institute'.

The TSI's also position the Faculty/University for greater funding success at the provincial level. Senior leadership in the FoMD are currently working with AIHS, University of Calgary and University of Lethbridge to develop a translational science strategy for the province that includes a plan for investment in 'translational research platforms and highly qualified personnel' across the province. By creating the TSI's our University and Faculty will be well positioned for such funding. The TSI structure provides leadership for acquisition, stewardship and sustainability of enabling platforms and technologies for the benefit of all.

The TSI's will also participate in the Faculty's new 'Translational Medicine Program' that teaches research concepts and methodology across all the pillars of translational research (basic/preclinical, clinical, outcomes and health services), illustrating the path from molecular discovery to health policy and treatment. In the USA and Europe, there have been intense efforts over the last five years to build such training programs, while in Canada our innovative program is the first to be established. The

¹ FoMD Strategic Plan (2014 – 2017) <http://www.med.ualberta.ca/-/media/medicine/AboutUs/sharpening-our-focus-112513-final.pdf>

Translational Medicine Program is open to all graduate students and clinical residents across the Faculty of Medicine and Dentistry, and graduates of this new program are granted a Master's of Science in Translational Medicine. Graduate students from outside of the Faculty of Medicine & Dentistry can also secure academic credits toward MSc or PhD degrees at the University of Alberta.

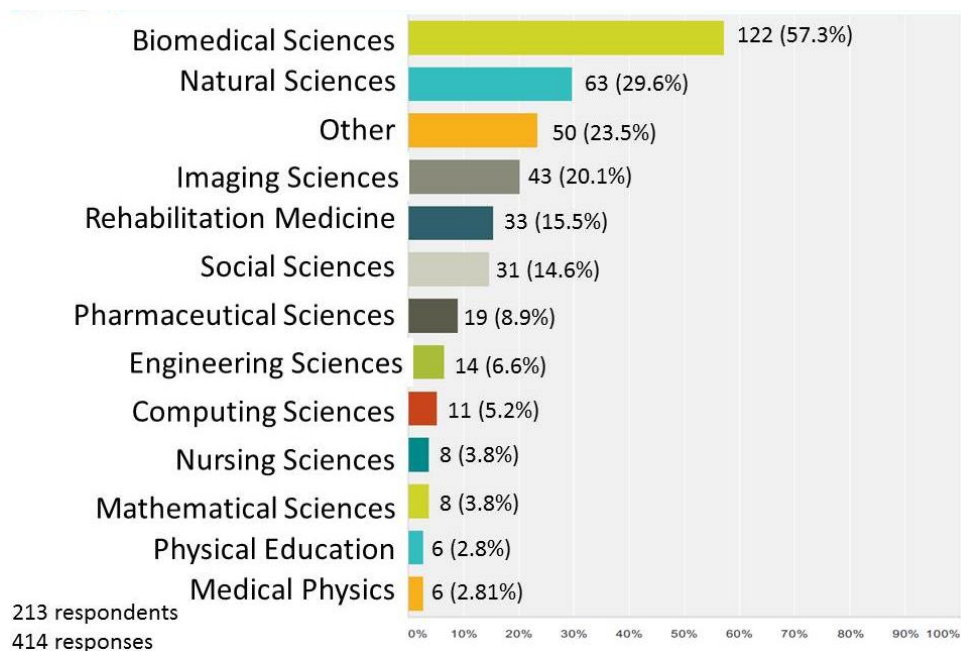
Forming the neuroscience and mental health institute entity will position UAlberta researchers for greater success in a host of emerging team-orientated, large-scale (\$1M - \$25M), strategic clinical translational research initiatives that include the following:

- International Collaborative Research Strategy for Alzheimer's Disease – Brain Canada
- International Initiative for Traumatic Brain Injury Research - collaborative effort of the European Commission (EC), CIHR, and the National Institutes of Health (NIH)
- Neural Interfaces and Rehabilitation core – funded by CFI
- NeuroDevNet (Autism Spectrum Disorder, Cerebral Palsy, Fetal Alcohol Spectrum Disorder) - funded by the Networks of Centres of Excellence
- Alberta Perinatal Stroke Project (APSP) – Pan-Alberta initiative
- Biomarkers and Therapies for Multiple Sclerosis – AI-HS Project Grant
- Functional Electrical Stimulation Program – funded by the Spinal Cord Injury Treatment Centre (Northern Alberta) Society (SCITCS)
- MRI Neuroimaging Core – funded by CFI
- Genetic analyses of locomotor and respiratory circuits core – funded by CFI
- Alberta Spinal Cord Injury Registry Project – Brain Canada and Rick Hanson Foundation
- Pressure Ulcers and Spinal Cord Injury – Novel Clinical Interventions – AI-HS team grant
- Strategic Clinical Network (SCN) - Mental Health and Addiction – areas of investigation include alcohol misuse, appropriate use of antipsychotics and depression
- Strategy for Patient Oriented Research (SPOR) –CIHR initiative that integrates funding, research, and health care
- MRI Biomarkers of Disease Progression, Behaviour, and Gait in Parkinson's Disease and Related Disorders
- Canadian Consortium for Neurodegeneration and Aging (CCNA)
- Promoting healthy living and functional recovery in Parkinson's Disease – AI-HS team grant
- CALSNIC: Canadian ALS Neuroimaging Consortium
- Collaborative Research Initiative in Substance Misuse (CRISM) Alberta node Transformational
- Research in Adolescent Mental Health (TRAM)
- FASD prevention in alcohol using mothers (with IHE) EMPATHY
- Canadian Depression Research Intervention Network (CDRIN) Alberta Hub
- National Institute of Science and Technology in Translational Medicine (Brazil/Canada collaboration)

Broader University of Alberta Priorities

The Executive Committee responsible for establishing NMHI surveyed the university academic community (PI's, research associates, trainees) to assess neuroscience and mental health research and education capabilities on campus. The goal was to inform the research priorities of NMHI, and to encourage interest, feedback and institute membership. They also hosted a 'NMHI Information Session' to as a means for further engagement.

To date, 213 individuals (neuroscience and mental health researchers, including a cohort of trainees) have responded to the survey. The graph shown below represents the range of disciplinary fields involved in neuroscience and mental health research across our campus and confirms a role for NMHI in supporting and fostering the multidisciplinary efforts of this collective. The number of faculty and trainees involved with NMHI will increase as the institute becomes operational.



The creation of NMHI aligns with the University's 'Dare to Deliver 2011-2015' Academic Plan and related strategic planning efforts.^{2,3,4,5,6}

² Dare to Deliver 2011-2015. The Academic Plan for the University of Alberta
<http://www.provost.ualberta.ca/AcademicPlan.aspx>

³ U of Alberta Strategic Research Plan for CFI/CRC/CERC – March 2012
<https://docs.google.com/a/ualberta.ca/file/d/0B8B3IXhPHP2gZ1A3T0k4dII2YVv/edit?pli=1>

⁴ University of Alberta Office of the Vice-President (Research) – Research Portfolio Plan and Goals 2012-2016
http://www.research.ualberta.ca/OfficeoftheVice-PresidentResearch/~media/vpresearch/Documents/OVPR/research_portfolio_plan_final_21j12.pdf

⁵ University of Alberta Human Health Initiative: A Vision. A Companion Document to the University of Alberta Academic Planning – 2010
<http://www.provost.ualberta.ca/~media/provost/Documents/Academic%20Plan/HumanHealthInitiative.pdf>

⁶ University of Alberta Student Engagement Plan – A DRAFT Companion Document to the 2001-2015 Academic Plan
<http://www.provost.ualberta.ca/en/~media/provost/Documents/Academic%20Plan/StudentEngagement.pdf>

NMHI builds on the existing capacities in neuroscience and mental health research across the University to create a position of strength and profile in Alberta and on the national and international landscape. NMHI provides the organizational framework necessary to actively seek large-scale provincial and federal infrastructure and operating awards on behalf of its membership. This is an expectation of the TSI's. Another mandate of the TSI's is to also provide support and management of competitive shared resources and research cores/platforms for the benefit of institute membership and the broader university.

A fundamental objective of NMHI is to foster trans-disciplinary interactions at all levels of research and to accelerate the capture and translation of discoveries and innovations for health and economic benefit. Knowledge mobilization will be advanced through commercialization as well as through non-commercialization channels. This will be achieved through engagement with appropriate enablers (e.g., TEC Edmonton, AI-TF, industry) and end-users (e.g., AHS's Strategic Clinical Networks [Addiction and Mental Health; others] and policy makers).

NMHI will thus create an environment for success that addresses an important area of health for Albertans and for society at large. Once established, a goal of NMHI (years 3 – 4) is to develop a meaningful national and/or international research-based relationship. This will serve to enhance the University's research reputation and improve the ability to attract and retain quality researchers, educators and clinicians.

In the education portfolio, NMHI will participate in the Faculty's new Translational Medicine Program (outlined above). It will also continue with its excellent and well-established educational initiatives as follows:

- Neuroscience Honours Undergraduate Program (~120 students ; established in 1995) - see **Appendix 2**
- Neuroscience Graduate Program (~65 students; established in 1989) - see **Appendix 3**
- MSc specialization in Neuromonitoring (established in 2013)
- Provision of teaching opportunities for senior trainees at Grant MacEwan University
- Expansion of research training experience for clinical fellows in Neurology, Neurosurgery, Anesthesiology, and Rehabilitation Medicine
- Weekly Seminar Series with attendance of 70-110 - see **Appendix 4**

An overall statement of benefits to the University of Alberta is as follows:

- Creation of a unique culture and landscape for translational research: a model for innovation that supports and interconnects basic and clinical research
- Unique, interdisciplinary training environment and new training opportunities for undergraduate and graduate students
- Enhanced funding opportunities under “translational”, “big science” and neuroscience and mental health portfolios

- A strong philanthropic opportunity for the University
- Enhanced profile for the University – locally (with public and government) and internationally
- Increased cooperation and activities between UofA and Alberta Health Services (AHS)
- Knowledge translation: technology development, commercialization and IP generation for UofA

NMHI is founded on a very strong base and is a natural progression from the Centre for Neuroscience that is currently recognized as an area of excellence at UAlberta (see **Appendix 5** for Centre for Neuroscience membership data). The status of Institute is a more accurate reflection of the interdisciplinary and multidisciplinary research organized across multiple Faculties. The transition to an Institute is an essential step in further elevating our profile and capitalizing on new funding opportunities. The latter will be critical for trainee and faculty recruits within this defined area of research strength that was largely built with AHFMR programs, the termination of which has greatly diminished funding capacity. This will include an increased capacity to secure AI-HS, Centres of Excellence, Brain Canada, CIHR team grants, industry investment, and philanthropic support.

The Office of Advancement at ‘UAlberta central’ and in the Faculty of Medicine & Dentistry will make NMHI a priority for philanthropic fundraising efforts. Institute designation better reflects the depth, breadth and merit of the neuroscience and mental health community at UAlberta and will increase ‘profile’ amongst potential donors. Currently, substantial donations for neuroscience-related causes are made annually by people from Edmonton and surrounding areas to a variety of fundraising agencies and hospital foundations for ‘research’ purposes. The Institute will become a preferred ‘receptor’ for a portion of those donations with increased public awareness that the vast majority of research is performed within our Institute.

Summary: As presented in this section, creation of NMHI strategically leverages established strengths on campus to position UAlberta researchers for success in the neuroscience and mental health environment. NMHI also represents a new way of doing ‘academic business’ at our University, in part through managed and milestone-gated expectations of the new TSI model. The results will be quantifiable scholarly, health and economic impact for the University and Province.

The major research areas within the proposed Institute that are recognized nationally and internationally as specific strengths of our group fall into three major themes:

1. Spinal Cord and Brain Injury and Rehabilitation: The spinal cord physiology/rehabilitation and respiratory neural control groups are international leaders in their respective fields (noted in external review performed in 2005 and in the Faculty’s Research Assessment Exercise (RAE) performed in 2010). These groups have continued to conduct world-class research into the neural control of locomotion and breathing movements and to translate their research findings into devices or drugs that can be commercialized to improve the quality of life for people with motor disabilities and diseases. This has included important translational and commercialization contributions (e.g. C-leg prostheses, WalkAide, Bionic Glove, ReJoyce Workstation, Smart-e Pants, and Ampakine therapy for treating central apnea). This group also consists of investigators working on related areas of stroke (newborn and adult),

concussion, and chronic pain.

2. Degenerative and Inflammatory Diseases of the Nervous System: The Centre for Prions and Protein Folding Diseases opened in 2007. Its director, David Westaway, leads an internationally recognized team occupying 27,000 square feet of lab and office space, containing communal, state-of-the-art equipment and animal facilities for studies of protein folding diseases including Alzheimer's Disease. There are several other internationally recognized preclinical and clinical investigators within the proposed Institute examining Alzheimer's, Huntington's, and Parkinson's Disease, and amyotrophic lateral sclerosis. These devastating neurodegenerative disorders appear to have some common pathological mechanisms and thus the team focus is critical. The other major research focus in this area is multiple sclerosis (MS). Alberta has the among highest global prevalence rates of MS, affecting over 12,000 Albertans lifelong. The principal goal of the recently approved MS Centre is to provide a platform for discovering and preventing the cause(s) and effects of MS using cutting edge research tools. The MS Centre is currently comprised of 16 investigators together with 10 other healthcare professionals, all of whom are involved in MS research, care, or education at the University of Alberta and have both national and international collaborations related to MS. Both the degenerative disorders groups and MS groups have active, productive, and world-class imaging research programs in collaboration with the Peter S. Allen MR Research Centre.

3. Mental Health and Addiction: Investigators from the Neurochemical Research Unit, Peter S. Allen MR Centre, Translational Neuroimaging in Alcoholism (TRANSALC) group, the Child and Adolescent at Risk Population Imaging (CARPI) group, and Bebensee Schizophrenia Research Unit form a multifaceted team who examine the underlying causes and novel treatment strategies for a range of psychiatric and neurological disorders (e.g. depression, schizophrenia, post-traumatic stress disorder, compulsive disorders) and addiction. Several members of this team also work closely with the AHS Strategic Clinical Network (SCN) in Addiction and Mental Health and with the Canadian Depression Research and Intervention Network (CDRIN). The Institute team studying the neurobiological basis for memory, CNS development and genetic disorders investigate debilitating learning and behavioural disabilities including those associated with Fetal Alcohol Syndrome, Fragile X Syndrome, hydrocephalus, Rett Syndrome, and Prader Willi-Syndrome.

The following officially recognized research entities are embodied within the proposed Institute:

The membership of the following Centres, Units and Groups will be included in the broader NMHI. We will share common educational training programs, seminar series, research platforms and philanthropic efforts. Please see attached letters of support from each of the leaders.



- Centre for Prions and Protein Folding Diseases – Director: Dr David Westaway
- Neurochemical Research Unit – Directors: Drs Glen Baker and Ian Winship
- Multiple Sclerosis Centre – Director: Dr Christopher Power
- Peter S. Allen Magnetic Resonance Research Centre – Director: Dr Christian Beaulieu
- Rehabilitation Neurosciences Group – Director: Dr Karim Fouad

We will strengthen existing relationships with the following 'Community Partners':

- The Steadward Centre for Personal & Physical Achievement
- MS Society of Canada, Alberta & Northwest Territories Division
- Canadian Paraplegic Association (Alberta)
- Spina Bifida and Hydrocephalus Association of Northern Alberta
- Cerebral Palsy Association of Alberta
- CASA SERVICES - Child, Adolescent and Family Mental Health
- Brain Care Centre
- Parkinson Alberta
- The Spinal Cord Injury Treatment Centre (Northern Alberta) Society (SCITCS)
- BAM (Brain Awareness Movement)
- Alzheimer's Society of Alberta
- Glenrose Rehabilitation Hospital
- Mark Mercier Foundation
- Alberta Prion Research Institute

- Alberta Mental Health Alliance

3. Provide a description of the proposed centre/institute governance structure/reporting lines. Include a diagram of organizational structure.

NMHI will be governed by a **Board of Stakeholders** that will adopt core principles of good governance: accountability, leadership, integrity, stewardship and transparency. The ‘Board’ of Stakeholders will consist of deans from other participating faculties (or their delegates), senior representation from AHS, and potentially representation from major funding partners. The ‘Reporting Dean’ for NMHI is the Dean of the Faculty of Medicine & Dentistry (Chair, Board of Stakeholders). This Board will provide information and advice to the NMHI Directors (see below) and will also be apprised of financial reporting and project progress. The Board of Stakeholders will approve the business plan, the annual budget, the appointment of institute directors, and membership of the management committee (see below). The Board of Stakeholders will report to the Dean of FoMD who has final authority over all decisions.

Composition of the **Board of Stakeholders** will consist of the following (Note: other members may be appointed; UAlberta will maintain majority vote):

- Dean, Faculty of Medicine & Dentistry (n = 1)
- UAlberta Faculty Deans (whose faculty members have a role in the institution; n=3)
- AHS Executive Representative (Senior Vice-President Research; n = 1)
- UAlberta VPR Representative (Associate Vice-President (Research); n = 1)
- NMHI Directors (non-voting; n = 3)

A **Management Committee** will assist the institute directors with the overall management responsibility of NMHI. Responsibilities include: ensuring activities of NMHI are consistent with its mission and objectives; overseeing and moving forward the research programs of NMHI; development of the institute’s business plan and annual budgets, and management/oversight of NMHI finances, staff and operations. Research Theme leads will be on this committee. The Management Committee will be chaired by the NMHI director (e.g., co-directors will alternate as chair on an annual basis).

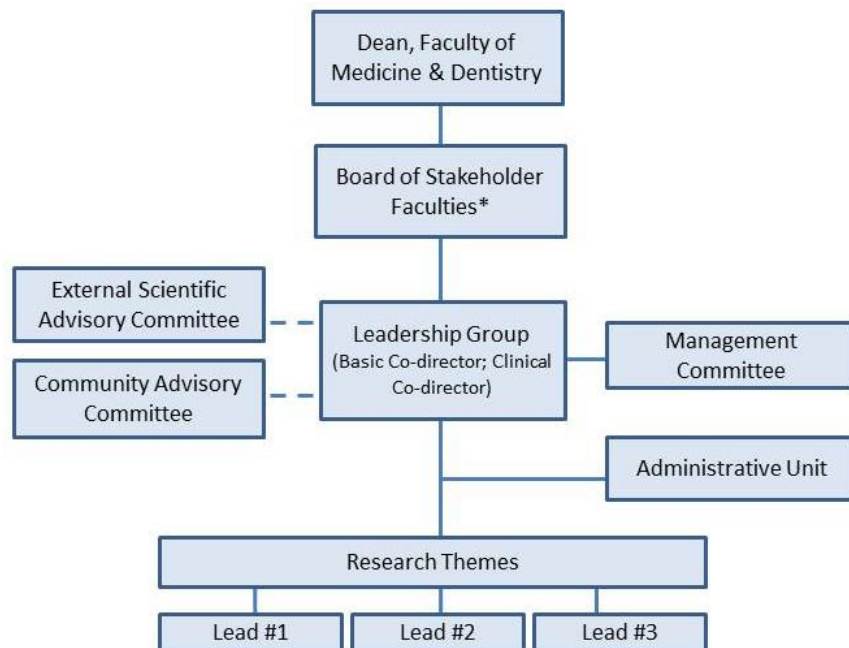
Composition of the **Management Committee** will consist of the following (Note: other members may be appointed; UAlberta will maintain majority vote):

- NMHI Directors (alternate annually as Chair; n = 3)
- Directors of UAlberta research centres/units under NMHI (currently n = 5)
- AHS Addiction and Mental Health Strategic Clinical Network Director (n= 1)
- Provincial Strategy for Patient Oriented Research Executive Director (n = 1)
- Faculty of Medicine & Dentistry Translational Science Institutes Executive Director (n = 1)
- NMHI Research Theme Leads (n =3)

A leadership team that embodies the range of expertise in translational research – from basic to clinical – will be established (see next section). The Directors will function with guidance from the **Management Committee**, an **External Scientific Advisory Committee**, and a **Community Advisory Committee**.

The **External Scientific Advisory Committee** - comprised of internationally recognized scientific leaders representing areas of research focus in NMHI - will provide input to the Directors and to the research team on ‘science and platforms’. The **Community Advisory Committee** will consist of leaders from Alberta’s business community and will offer strategic advice to the Directors regarding financial and legal issues and will support the Directors in garnering external funds/gifts for the Institute. This committee will also be a conduit for engagement with the general public regarding public education strategies and community-based participatory research initiatives. **Appendix 6** outlines current membership of the **Educational Committees** (these Committees are not shown in the diagram).

The following diagram shows the NMHI governance relationships:



*Chair: Dean, Faculty of Medicine & Dentistry

4. Provide a statement of the role and qualifications of the centre/institute lead of the proposed centre or institute.

As noted above, a leadership team that embodies the range of expertise in translational research, from basic to clinical, will be established. This will likely follow a co-directorship model, where one director is a PhD basic scientist and the other is a MD clinical scientist. This approach is being used in most of the translational research centres/institutes across the US and Europe [e.g., the ‘Clinical Translational Science Award’ centres (CTSA’s)] to ensure basic and clinical integration and ‘cross-talk’ among the

disciplines. This is intended to optimize efforts to discover and translate.

The role of the Institute Directors is to manage the affairs of the institute, guide its strategic development, and to be the formal channel of communication between the institute and senior officers of the University and the external landscape (AHS, AI-HS, and government).

The 'basic' director will likely be a PhD scientist and will lead and represent the basic discovery/pre-clinical research programs in NMHI and will ensure that a culture of "forward translation" is fostered in the institute. This individual will also be a bridge to stakeholders (AI-HS, government) with respect to the institute's discovery and pre-clinical work. The 'clinical' director will likely be an MD clinician scientist with early-phase clinical trial experience. This individual will ensure that a culture of "backward translation" (i.e. clinical findings feeding back to inform foundational research) is fostered in the institute and will represent the clinical research programs of NMHI to relevant stakeholders and end-users (government, AHS, SCN's). Together, the two directors will make certain that each translational research theme within NMHI is highly integrated and populated with projects that span the continuum of translational research (e.g., from basic discovery/pre-clinical, to early first-in-human, to health outcomes and health services research).

The Directors will be recognized international leaders within their field of expertise and will be able to demonstrate substantial administrative leadership skills and experience. Their research and/or clinical programs will be directly linked to one or more of the priority research themes of NMHI.

The approach to establishing NMHI leadership is as follows: An interim leadership team will be appointed for a period of approximately one year. The interim leadership team will consist of Drs. John Greer, Xin-Min Li, and Sanjay Kalra. These 3 individuals along with Drs Andrew Greenshaw, Deborah James, and Glen Baker form the current 'NMHI Executive team' responsible for leading creation of the institute.

Over the next year and under the leadership of the interim directors NMHI will be established and advanced. The research themes will be refined and a research strategy developed and implemented that includes clear targets for progress. Similar work will occur under the training, outreach, and operational domains of NMHI. The interim directors will focus on securing funding for the institute via granting agencies, philanthropy, and creation of partnerships with stakeholders.

During year one, search and selection committees will be assembled for the NMHI directorship positions. Position descriptions will be developed and posted. Internal - including interim directors - and external neuroscience experts will be invited to apply. The period of office for the Directors shall normally be three years. A person who has previously held office as Director shall be eligible for reappointment.

Interim Basic Science and Programs Director: Dr. John J. Greer is a Professor in the Department of Physiology and Senior Scientist of AIHS. He has received continued full salary support from AHFMR/AIHS from the time of his recruitment in 1993 through to 2015 when the AHFMR salary support program will end. He has held long-term, parallel CIHR funding in two distinct areas of research for which his laboratory has gained an international reputation. 1) Neurochemical control of breathing and the development of pharmacological therapy to counter central apnea. This work includes a patent entitled 'Method of Inhibiting Respiratory Depression Using Ampakines' that the University of Alberta has licensed to Cortex Pharmaceuticals Inc and is being developed for clinical trials; 2) Pathogenesis and etiology of congenital diaphragmatic hernia. His laboratory is credited with elucidating the embryological defect underlying the developmental anomaly and the potential link to retinoid signaling with the etiology.

Dr. Greer was assigned a 5 year term as Director for the Centre for Neuroscience in 2012. The first 15 months of his Directorship of the Centre have resulted in a number of substantial initiatives and increases in the Centre's activities and profile.

Interim Clinical Science Directors: Interim clinical co-directorship will be provided by the combined efforts of Drs. Xin-Min Li (Psychiatry) and Sanjay Kalra (Neurology).

Dr. Xin-Min Li is a clinician/scientist who holds the following positions at the University of Alberta: Professor and Chair, Department of Psychiatry, Capital Health Chair in Mental Health Research, and Special Advisor to the Dean of FoMD on China Research Initiatives. Dr. Li previously held positions as Professor and Director of the Neuropsychiatry Research Unit in 2000 at the University of Saskatchewan. In 2007, Dr. Li moved to the University of Manitoba as Professor and Ruth Hurd Research Chair in the Department of Psychiatry. He was also Medical Director of the International Medical Graduate Program and Director of the Neuroscience Research Program in the Faculty of Medicine. Dr. Li's expertise in the field of Mental Health and connections with a number of potential philanthropic and industry partners will be important for developing the new Institute.

Dr. Sanjay Kalra is currently an Associate Professor in the Division of Neurology, Department of Medicine and co-director of the University of Alberta ALS Program. As director of Resident Research he facilitates research opportunities for neurology residents as part of their educational requirements. Dr. Kalra's research focuses on the development and application of advanced magnetic resonance imaging techniques to study amyotrophic lateral sclerosis. His scientific program is funded by the Canadian Institutes of Health Research, the ALS Society of Canada, and the ALS Association. He is the national PI of a multicenter imaging consortium, and has participated in international working groups to develop evidenced-based clinical and imaging practice guidelines. In addition to his imaging interests, he has participated in investigator-initiated and industry-led clinical trials.

5. Employees

Researchers and clinicians directly involved with NMHI are academic employees of the university and are paid through various usual/standard operational and base funding sources from a multitude of university departments and faculties. NMHI also serves research investigators employed by AHS. As for the core administrative support team, employment status and responsibility is as follows. Additional staff will be hired as the administrative needs of NMHI expand.

Name	Role	Employment Status	FTE with NMHI	Source of UA funds
Megan Airmet	Programs Coordinator (HR, team lead)	NMHI (salary paid by Fac. of Science)	1.0 FTE	Operations budget
Karen Lund	Admin Assistant	NMHI, FoMD	0.8 FTE	Operations budget
Hire	Programs Assistant	NMHI, FoMD	1.0 FTE	Operations budget
Hire	NMHI Research Projects Manager	NMHI, FoMD	1.0 FTE	FoMD funds to NMHI
Hire	Sr Grant Writer (shared among 3 TSIs)	FoMD	1.0 FTE	FoMD base budget

6. Detailed Budget

Please refer to detailed budget, attached as an EXCEL file.

7. Space Requirements.

There are 4 remaining offices and associated laboratory space adjacent to those assigned to the Centre for Neuroscience and Campus Alberta Neuroscience (CAN) (4-142 Katz Bldg). With the establishment of an Institute we request that those areas be reserved for the **NMHI Research Projects Manager** and neuroscience recruits. This could include a **Clinical Co-Director, Parkinson Alberta Endowed Chair, and a SCITs Endowed Chair**. The MS group has also secured funds for an **MS Chair** that may require laboratory and office space. In summary, there will be **further growth in the number of Institute recruits** and this will require appropriate planning.

Is funding required? No; Reasons: Laboratories and office space construction is essentially complete and funds from endowments, donations, and FoMD base funding could be used for any additional modifications deemed necessary.

8. Potential Risks to the University of Alberta

- a) State any reputational, financial, and/or operational risks to the University of Alberta.
- b) Outline plans to mitigate/manage those risks.
- c) Risk Management Services may be consulted.

Risks are inherent in any endeavor and NMHI does not impose risk up and above that which is consistent with usual university teaching and research activities. A main risk to NMHI would be a failure to achieve financial sustainability. NMHI will take steps to minimize risks: its functional governance structure, lines of reporting and accountability serve to minimize risk as does an aggressive funding and sustainability strategy that will be vigilantly pursued and monitored. The NMHI project manager will support these endeavors. NMHI will abide by all UofA policies, procedures and ethical codes with regard to research.

9. Annual Reporting and Strategic Review: In accordance with UAPPOL Policy

- a) State a provision for annual reporting to the responsible Dean.
- b) State a provision for annual reporting to the Office of the Provost.
- c) State a provision for strategic and operational review by the responsible Dean (or delegate) at no less frequency than every five years.

The 'Reporting Dean' for NMHI is the Dean of the Faculty of Medicine & Dentistry. NMHI will submit annual reports to both FOMD and Office of the Provost containing the following elements:

1. Progress towards the goals and objectives of the five year business plan
2. Funding by source
3. Expenditures by major line item
4. Budget variance report
5. Benefits/innovations in care to individuals with neuroscience/mental health-related disorders
6. Benefits/innovations to the FoMD and the UofA

The Faculty of Medicine will perform metrics-based reviews on all TSI's (NMHI) at years 3 and 5 following institute establishment. NMHI will need to demonstrate 'sustainability' and impact by this stage (year 3-5). At year 5, NMHI will also revisit its strategic plan and develop future strategies and operational goals.

10. Intellectual Property (IP) and Copyright

- a) Will any copyright or patentable IP be created, and if so, how will it be handled?
- b) How will ownership and commercialization of IP be handled?

All copyright or patentable IP created by NMHI will be handled according to the Patent Policy and Commercialization of Patentable Intellectual Property Procedure of UAPPOL and the Copyright Regulations.

11. Termination Plan/Provisions

a) Exigency plan for termination: If physical and/or financial resources will remain upon termination, a plan for consultation with donors or agencies associated with the centre or institute must be included in the dissolution plan.

Staff: Current U Alberta staff would remain with the UofA as per their individual appointments/agreements. Administrative positions that are on contract would be terminated or reassigned with adequate notice.

Facilities & Equipment: Any facilities and equipment designated to and for use by NMHI would be returned to the FoMD for redistribution at the discretion of the Office of the Dean.

Financial: All financial encumbrances and contractual obligations would become the responsibility of the FoMD for resolution, fulfillment or termination through the Office of the Dean. Donor agreements will be honored provided that the gift can continue to be aligned with donor intent. Grants and sponsored research remain the responsibility of the PI under which they are held and will be managed appropriately with input/guidance from the Office of the Dean, Faculty of Medicine & Dentistry.

12. Letters of support have been provided by the following:

Dean, Faculty of Science – Dr. Jonathan Schaeffer

Acting Dean, Faculty of Rehabilitation Medicine – Dr. Bob Haennel

Vice Dean, Faculty of Physical Education and Recreation – Dr. Wendy Rodgers

Chair, Department of Physiology, Faculty of Medicine & Dentistry – Dr. James Young

Co-Directors of the Neurochemical Research Unit – Drs. Glen Baker and Ian Winship

Director, Peter S. Allen Magnetic Resonance Research Centre – Dr. Christian Beaulieu

Director, Centre for Prions and Protein Folding Disease – Dr. David Westaway

Director, Sensorimotor and Rehabilitation Neuroscience Group – Dr. Karim Fouad

Director, MS Centre – Dr. Christopher Powers

Senior Provincial Director, SCN in Mental Health and Addiction - Dr. Cathy Pryce

Director, Canadian Depression Research and Intervention Network – Dr. Zul Merali

Director, CIHR Institute of Neurosciences, Mental Health & Addiction– Dr. Anthony Phillips (forthcoming)

Provide, if applicable, any **agreements and/or memoranda of understanding between the University of Alberta and its partner(s)** to establish, fund and operate the proposed academic centre or institute.

N/A

Appendix 1: TSI Requirements

To maximize success of the TSI's and to qualify for direct strategic investment by the Faculty, new TSI's must comply with the following requirements:

1. Governance

- a. Functional 'translational' leadership - TSI's will be directed by a leadership team that is representative of both ends of the translational continuum: basic (PhD) and clinical (MD). These may be internal or external appointments, but cannot be sitting department chairs. Director(s) report to the FoMD Dean.
- b. Scientific Advisory Committee – internal and external composition; established in Year 1.

2. Membership

- a. Multi-faculty – requires scientists from more than one UofA Faculty; membership from other Campus Alberta institutions is actively encouraged.
- b. Research Asset Map – requires participation in annual UofA-wide survey for funding renewal (see below).
- c. Benefits – access to translational cores and platforms at a cost-recovery rate, or less. Each TSI is responsible for acquisition and sustainability of core facilities/research platforms for its members.

3. Science Programs

- a. Follows the National Cancer Institute (NCI) Model – at least three (3) translational research domains are required by each TSI.
- b. Key Institute Goals – must be approved by Dean's Office (i.e., 'big science' project funding, first-in-patient trial, etc.).
- c. Masters in Clinical Translational Science (MCTS) – The Faculty has developed a MCTS program. Each TSI must enroll clinician-scientist members and contribute to delivery of MCTS educational content.

4. Strategic Funding

- a. FoMD will provide up to \$750K/year/TSI for 3 years.
- b. Carry Forward – annual funding may be carried forward with FoMD Dean's approval (annual progress will be reviewed).
- c. Term – renewable for up to 3 years with Year 3 FoMD review of TSI progress towards approved Key Institute Goals. Sustainability expected after 3 years.
- d. Dean's Innovation Fund (DIF) – Executives in the Dean's office (Director of Innovative Partnerships; Assistant Dean, Advancement; Senior Grant Writer/Coordinator) available to TSI's for leveraging of other funding sources

Appendix 2: Neuroscience Honours Undergraduate Program – Overview

Program Requirements: The objective of the Honors Program is to introduce students to all the major areas of Neuroscience, and to provide an opportunity for each student to explore research of interest in their final year. Students can enter the program out of high school or transfer from another university or program. For students who enter from high school, the first two years include a number of foundational science courses. In the third and fourth year, courses focus more directly on brain structure and function, with lectures emphasizing different aspects of cellular, molecular, systems and cognitive neuroscience. In fourth year, our students apply their classroom learning during individual study projects with NMHI faculty members and get hands-on research experience in a neuroscience laboratory of their choosing. In all years, students are required to maintain a full course load (*30 in the Fall/Winter term) and a 3.3 GPA.

Year 1

BIOL 107
CHEM 101, 261
*6 junior ENGL or WRS
MATH 113 or 114
MATH 115 or STAT 141 or 151
PHYS 124, 126
PSYCO 104

Year 2

BIOCH 200
BIOL 207
CHEM 263
NEURO 210
PHYSL 212, 214 (Students must be manually enrolled in both courses by the Department of Physiology. Registration via Bear Tracks is not possible.)
PSYCO 275
*6 in Science options
*3 in Arts options

Year 3

NEURO 375
PMCOL 371
PHYSL 372
One of PSYCO 371, 375, 377; GENET 270, 390; ZOOL 344
*12 in approved options
*6 in Arts options

Year 4

Honours neuroscience students may choose from two research streams during their fourth year of study. Research Stream A (Independent Study and Laboratory Research) allows for *6 or *9 credits of independent study and research in one or more labs in the Centre for Neuroscience. This stream provides flexibility and allows for exposure to multiple research areas. Research Stream B (Undergraduate Honors Thesis in Neuroscience) involves *12 in independent study and research to be performed in the lab of a single faculty member in the Centre for Neuroscience, with the development of an undergraduate honors research thesis. This option is therefore a more intensive research experience allowing for more time and independent study in a neuroscience lab, and will culminate with a written research thesis and oral thesis defense.

Research Stream A (Independent Study and Laboratory Research):

NEURO 450

NEURO 451 and/or 452

*6 chosen from the following courses covering topics in Cellular and Molecular Neuroscience: NEURO 410; PHYSL 444; PMCOL 412; 512; PSYCO 478.

*6 chosen from the following courses covering topics in Systems and Cognitive Neuroscience: NEURO 443, 472, 496; PHYSL 403, 405; PSYCI 511; PSYCO 471, 475.

*6 (if NEURO 450, 451 and 452 are taken) or *9 (if NEURO 450 and one of NEURO 451 or 452 are taken) of Science options.

*3 in Arts options

OR

Research Stream B (Undergraduate Honors Thesis in Neuroscience):

*6 NEURO 498 and *6 NEURO 499

*6 chosen from the following courses covering topics in Cellular and Molecular Neuroscience: NEURO 410; PHYSL 444; PMCOL 412, 512; PSYCO 478

*6 chosen from the following courses covering topics in Systems and Cognitive Neuroscience: PSYCO 471; PHYSL 403, 405; NEURO 443, 472, 496; PSYCI 511.

*3 of Science options approved by the program coordinator for the Undergraduate Honors Program in the Centre for Neuroscience

*3 in Arts options

Appendix 3: Neuroscience Graduate Program – Overview

Requirements to complete the graduate program include course, ethics, and seminar components, annual meetings with the Graduate Coordinator and supervisory committee, a thesis proposal, candidacy exam (for PhD students), final oral defense of a thesis and submission of a thesis.

Course Requirements: A minimum of 6 course credits and a thesis are required for the MSc. A minimum of 9 course credits and a thesis are required for the PhD degree. Of these credits, at least 3 credits must be from didactic, lecture-based course work, regardless of the degree. Students are required to maintain a minimum cumulative program grade point average of 3.3 (B+) throughout their program.

Seminar Attendance: In addition to the required courses, students are required to attend regularly scheduled weekly seminars offered in the Neuroscience Seminar Program. All graduate students are required to attend 20 seminars per year anywhere on campus and at least 10 of these must be selected from the list of formal Neuroscience seminars. Participation in these seminars is a requisite for continuation in the program.

There are also a number of special seminars that all graduate students are required to attend, in addition to the mandatory minimum 10 seminars per year. Examples include (and will change year to year): the Annual Alumni Lecture, the Annual Richard B. Stein Lectureship, etc. Notices that these seminars are mandatory will be sent to students from the Institute office.

Ethics Component: The academic integrity and ethics training requirement stipulates that all graduate students must complete eight hours of structured academic activity in academic integrity and ethics prior to convocation. Specific ethics requirements of Neuroscience graduate students are available on the NMHI website.

Neuroscience Research Day (NRD): NRD is NMHI's annual student research showcase event, highlighting the graduate student research within the Institute and facilitating inter-disciplinary interactions among students and faculty. The format of NRD follows that of a typical scientific meeting and includes a keynote presentation from a distinguished scientist from outside of the University of Alberta as well as presentations by students of the NMHI.

Appendix 4: 2013/2014 Centre for Neuroscience Seminar Series

OCTOBER	October 8, 2013	Dr. Andrew Schwartz	University of Pittsburgh	Annual Dick Stein Lecture: Recent work towards high-performance brain-computer interface	Dr. Arthur Prochazka
	October 15, 2013	Dr. Trevor Hamilton	Centre for Neuroscience Adjunct Member, Assistant Professor, Department of Psychology, Grant MacEwan University	Can neuropeptide Y affect synaptic plasticity in the brain?	Dr. William F. Colmers
	October 22, 2013	Dr. Ying Zhang	Assistant Professor, Dalhousie University	The story of V3 interneurons in the spinal cord	Dr. Simon Gosgnach
NOVEMBER	November 1, 2013	Dr. Amy Tse	Centre for Neuroscience Member, Department of Pharmacology, University of Alberta	Regulation of stress response: role of TREK-1 channels.	Dr. Peter Smith
	November 1, 2013	Jayalakshmi Caliaperumal, Final PhD Defense Seminar	PhD Candidate, Centre for Neuroscience, PhD Candidate	Mechanisms of injury and recovery after an intracerebral hemorrhage	Dr. Fred Colbourne
	November 5, 2013	Dr. Stephanie Borgland	Assistant Professor, University of Calgary	How junk food affects synaptic transmission in the reward circuitry	Dr. Peter Smith
	November 19, 2013	Dr. Patrick Flood	Centre for Neuroscience Member, Associate Chair for Research, Department of Dentistry, Faculty of Medicine and Dentistry, University of Alberta	β 2-adrenergic receptor activation as therapy for Parkinson's disease.	Dr. John Greer
	November 26, 2013	Dr. Craig Chapman	Centre for Neuroscience Member, Assistant Professor, Physical Education & Recreation Faculty, University of Alberta	Understanding human actions as the observable component of cognition	Dr. Kelvin Jones
	November 28, 2013	Dr. John McLean	Professor, Division of Biomedical Sciences, Memorial, University of Newfoundland	Exploring mechanisms of memory extension in a neonate mammalian model	Dr. Peter Nguyen
DECEMBER	December 3, 2013	Dr. Jeff Biernarskie	Memorial University of Newfoundland	Skin-derived Schwann cells for nervous system repair	Dr. Karim Fouad
	December 10, 2013	Dr. Jitendra Kumar	Post-doctoral fellow, Centre for Prions and Protein Folding Diseases, University of Alberta	The influence of strategic D-amino acid substitution on amyloid beta aggregation	Dr. Valerie Sim

JANUARY	January 14, 2014	Dickson Lab presentation	Centre for Neuroscience Member, Departments of Psychology, Physiology, University of Alberta	Rhythm of the night, rhythm of the light: The role of synchronized oscillatory brain activity for hippocampal function in both offline and online states	Dr. Clayton Dickson
	January 28, 2014	Dr. Guillaume Millet	Professor of Exercise Physiology, University of Calgary	Neuromuscular fatigue: lessons from extreme sport and environment	Dr. Dave Collins
FEBRUARY	February 3, 2014	Dr. Patrick Pilarski	Adjunct Assistant Professor, Postdoctoral Fellow, RLAI, AICML Dept. of Computing Science University of Alberta	Knowledgeable neuroprostheses: machine intelligence for the improved control of next-generation artificial limbs	Dr. Shaun Gray
	February 4, 2014	Dr. Toshifumi Yokota	Centre for Neuroscience Member, Assistant Professor, Department of Medical Genetics, University of Alberta	Development of oligonucleotide therapeutics in neurology	Dr. John Greer
	February 6, 2014	Dr. Robert Gaunt	Assistant Professor Physical Medicine and Rehabilitation University of Pittsburgh	Brain(less) machine interfaces: neural interfaces with the peripheral nervous system	Dr. Shaun Gray
	February 25, 2014	Malykhin Lab Presentation	Centre for Neuroscience Member, Assistant Professor, Department of Biomedical Engineering, University of Alberta	The neuropsychology of the medial temporal lobe: Insights from neuroimaging.	Dr. Nikolai Malykhin
MARCH	March 4, 2014	Dr. Masami Tatsuno	Assistant Professor, Neuroscience and CCBN, University of Lethbridge	Sleep dependent consolidation of motor skill memory: preliminary evidence of reactivation and influence of tDCS on sleep architecture	Dr. Clay Dickson (CANAE)
	March 11, 2014	Neuroscience Research Day March 10			
	March 18, 2014	Dr. Victor Rafuse	Professor, Department of Medical Neuroscience, Dalhousie University	Annual Alumni Lecture: Stem cell-derived motoneurons as a model system to study motor neuron development and disease	Dr. John Greer

	March 25, 2014	Dr. Kris Cowley	Assistant Professor, Spinal Cord Research Centre, Department of Physiology, University of Manitoba	Developing effective strategies to prevent or treat the musculoskeletal deterioration and increased sedentary-related health risks that occur after spinal cord injury	Dr. Simon Gosgnach
APRIL	April 1, 2014	Dr. Christian Beaulieu	Centre for Neuroscience Member, Professor, Scientific Director, Department of Biomedical Engineering, University of Alberta	MRI of the brain: typical development and deviations associated with prenatal alcohol	Dr. Peter Smith
	April 8, 2014	Dr. Alex Gourine	Professor, Neuroscience, Physiology and Pharmacology, UCL	Astroglial control of vital neural networks	Dr. Gregory D Funk
	April 15, 2014	Dr. Mike Salter	Senior Scientist in the Neurosciences & Mental Health Program at The Hospital for Sick Children (SickKids) Research Institute, Professor, University of Toronto	Annual Dr. Jean Hugill Memorial Lecture : From receptors to pain: The molecular dynamics of pain	Dr. Mike Murphy
	April 22, 2014	Dr. Bradley Kerr - Lab Presentation	Centre for Neuroscience Member, Department of Anesthesiology and Pain Medicine, University of Alberta	Sex, drugs and serotonin	Dr. Bradley Kerr
	April 25, 2014	Dr. Jeff Zidichouski	NRC Canada and Universities of Calgary, Hong Kong and PEI	Roads less travelled - Non-traditional Postgraduate Career Paths	Dr. Peter Smith, Combined seminar with Dept. of Pharmacology
	April 29, 2014	Dr. Carmen Rasmussen	Centre for Neuroscience Member, Associate Professor, Pediatric Neuroscience, Department of Psychiatry, University of Alberta	Neurocognitive impairments in children and adolescents with Fetal Alcohol Spectrum Disorders (FASD)	Dr. Peter Smith

Appendix 5: Centre for Neuroscience membership data

Neuroscience was identified in 2001 as an Area of Established and Emerging Research Excellence at the University of Alberta. Since that time the number of principal investigators and students enrolled in neuroscience programs has increased approximately twofold and the breadth of research areas greatly enhanced. The Institute membership will initially consist of 100 principal investigators distributed across 5 Faculties and recently included investigators from MacEwan University.

- Medicine & Dentistry (62 members; 42 PhD and 20 clinician/scientists)
- Science (17 members)
- Rehabilitation Medicine (10 members)
- Physical Education and Recreation (5 members)
- Nursing (1 member)
- School of Public Health (1 member - *invited - pending)
- MacEwan University (2 members)

The following data reflect the overall research excellence within the proposed Institute.

- \$19.3M research funding for the 2012-13 fiscal year:
 - Tri-Council (CIHR, NSERC and SSHRC): \$8.4M/year
 - Team Grants (AIHS, CFI, NeuroDevNet): \$8.5M/year
 - Other Agencies (e.g. MS Society, Rick Hansen, ALS Society, Paraplegic Society, Norlien): \$2.4M/year
- Number of peer reviewed publications in 2012-13 year: ~ 420
- Approximately ⅓ of principal investigators within the Institute held external salary awards in 2013

Appendix 6: Educational Committees

Neuroscience Graduate Program Committee

- Clayton Dickson – Associate Professor, Department of Psychology (Committee Chair)
- Karim Fouad – Professor, Faculty of Rehabilitation Medicine
- John Greer – Professor, Department of Physiology; Director, Centre for Neuroscience
- Kelvin Jones – Assistant Professor, Faculty of Physical Education and Recreation
- Bradley Kerr – Associate Professor, Department of Anesthesiology & Pain Medicine
- John Misiaszek – Professor, Department of Occupational Therapy
- Peter Smith – Professor, Department of Pharmacology

Education Committee

- Clayton Dickson – (Committee Chair)
- John Greer - Director, Centre for Neuroscience
- Peter Smith – Seminar Series Coordinator
- Megan Airmet – Programs Coordinator
- Simon Gosgnach – Undergraduate Program Coordinator
- Ian Winship – Undergraduate Program Coordinator
- Clinical Education Lead 0 TBD
- NGSA President – grad student rep
- UGSA President – undergrad student rep

	Year 1	Year 2	Year 3	Year 4	Year 5
REVENUE/INCOME (sustainability approaches)					
Faculty of Medicine & Dentistry (FoMD)	750,000	750,000	750,000		
Office of the Provost	153,600	153,600	153,600	153,600	153,600
Faculty of Science	8,000	8,000	8,000	8,000	8,000
Faculty of Rehabilitation Medicine	5,000	5,000	5,000	5,000	5,000
Faculty of Physical Education & Recreation	5,000	5,000	5,000	5,000	5,000
Department of Psychiatry	10,000	10,000	10,000	10,000	10,000
AI-HS CRIO Team Grants	1,100,000	2,000,000	3,000,000	3,000,000	3,000,000
AI-HS CRIO Infrastructure Grants	80,000	250,000	500,000	500,000	500,000
CFI (matched by IAE) Infrastructure grants	300,000	500,000	1,000,000	2,000,000	2,000,000
NeuroDevNet (CIHR) Team Grants	250,000	250,000	250,000	250,000	250,000
NCE grants					10,000,000
Philanthropy – local donors & corporations	135,000				
Philanthropy – Endowment (not included)			[20,000,000]		
TOTAL REVENUE/INCOME	\$2,796,600	\$3,931,600	\$5,681,600	\$5,931,600	\$15,931,600
EXPENDITURES					
Direct Costs of Organizational Operations – these are “fixed costs/expenditures”					
Personnel: includes base salary, benefits (22%), annual COLA (4%)					
Programs Coordinator (salary paid for by Faculty of Science)					
Programs Administrator (1.0 FTE at \$55K base)	67,100	69,784	72,575	78,478	81,617
Admin Assistant (0.8 FTE at \$50K base)	61,000	63,440	65,978	68,617	71,361
Research Projects Manager (1.0 FTE at \$100K base)	122,000	126,880	131,955	137,233	142,723
Events and Marketing (Contract basis)	25,000	25,000	25,000	25,000	25,000
TA	8,000	8,000	8,000	8,000	8,000
Sub-total personnel	283,100	293,104	303,508	317,328	328,701
Office administration					
Admin, promotions, etc	30,000	30,000	30,000	32,000	32,000

Sub-total office administration	\$30,000	\$30,000	\$30,000	\$32,000	\$32,000
Research Day and Community Outreach					
Student Research Day, Conferences, Public Events, Business,etc	35,000	40,000	40,000	40,000	50,000
NMHI annual resesarch conference and retreat	60,000	65,000	70,000	75,000	80,000
Sub-total business, etc	95,000	105,000	110,000	115,000	130,000
Weekly Seminar Series					
Weekly seminars, speaker travel and hosting, etc	25,000	25,000	30,000	35,000	40,000
Sub-total weekly seminar series	\$25,000	\$25,000	\$30,000	\$35,000	\$40,000

Research and Training Operating Costs – these expenditures will vary based on grant/other revenue success					
Training					
Student stipend awards (\$25K; 10, 15, 15, 20, 20)	250,000	375,000	375,000	500,000	500,000
Student tuition differential awards (\$5K per student)	25,000	35,000	40,000	45,000	50,000
Student conference travel (\$1K per student)	10,000	15,000	20,000	25,000	30,000
Postdoctoral Fellowship Awards (\$55K; 5, 10, 15, 15, 15)	300,000	550,000	750,000	825,000	825,000
Sub- total training	\$585,000	\$975,000	\$1,185,000	\$1,395,000	\$1,405,000
Research					
Translational Research Theme #1	250,000	500,000	1,000,000	1,000,000	2,000,000
Translational Research Theme #2	250,000	500,000	1,000,000	1,000,000	2,000,000
Translational Research Theme #3	250,000	500,000	1,000,000	1,000,000	2,000,000
Sub-total research operating	\$750,000	\$1,500,000	\$3,000,000	\$3,000,000	\$6,000,000
Research Infrastructure Costs	500,000	500,000	500,000	500,000	500,000
Platforms, IT, service – *INCLUDING HQP	500,000	500,000	500,000	500,000	500,000
Sub- total research infrastructure and platforms	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000
TOTAL EXPENDITURES	\$2,768,100	\$3,928,104	\$5,658,508	\$5,894,328	\$8,935,701
Net Surplus / (Deficit)	\$28,500	\$3,496	\$23,092	\$37,272	\$6,995,899



Interdepartmental Correspondence

Faculty of Science
Office of the Dean
6-189 Centennial Centre for Interdisciplinary Science (CCIS)
Edmonton, Alberta, Canada T6G 2E1

Tel: 780.492.4757
Fax: 780.492.9434
dean.science@ualberta.ca
www.science.ualberta.ca

Date: February 3, 2014

To: D. Douglas Miller, Dean
Faculty of Medicine and Dentistry

From: Jonathan Schaeffer, Dean
Faculty of Science

Cc: John J Greer, Director
Centre for Neuroscience

Jeff Bisanz, Chair
Department of Psychology

Re: **The Neuroscience and Mental Health Institute**

I am writing to indicate the Faculty of Science's strong support for the formation of the Neuroscience and Mental Health Institute at the University of Alberta. As outlined in the proposal the Institute will be a unique multi-faculty initiative devoted to research and education that advances our understanding of the nervous system and treatment of brain and spinal cord related diseases and disorders. It will build on the University's priorities in discovery and delivery by linking research to instruction. The Faculty of Science will have a substantial interest in the Institute because its mission overlaps with our objectives. I support the proposal fully and recommend it to you highly.

Sincerely,

A handwritten signature in cursive script that reads "Jonathan Schaeffer".

Jonathan Schaeffer
JS/rb

3-48 Corbett Hall
Edmonton, Alberta, Canada T6G 2G4
Tel: 780.492.2903
Fax: 780.492.1626
www.rehabmed.ualberta.ca

January 13, 2014

Dr. D. Miller
Dean
Faculty of Medicine and Dentistry
2J2.00 WC Mackenzie Health Sciences Centre
Edmonton, Alberta
T6G 2R7

Dear Doug,

I have reviewed the proposal for the establishment of a Neuroscience and Mental Health Institute here at the University of Alberta. The evolution of the Centre for Neuroscience to an Institute seems appropriate as the activities outlined in the proposal are broad in scope and will engage academics from multiple Faculties in interdisciplinary and multidisciplinary research. Therefore on behalf of the Faculty of Rehabilitation Medicine I wish to express our support for the establishment of the Neuroscience and Mental Health Institute.

As I understand it, Institutes must engage in multiple initiatives simultaneously and engage the talents of several different experts. This proposal clearly highlights that the proposed Institute will engage approximately 100 principle investigators from six Faculties. The proposal also identifies four major research areas for the Institute including: Motor Systems, CNS Injury and Rehabilitation; Protein Folding and Degenerative Neuronal Diseases; Psychiatric Disorder and Addition and Multiple Sclerosis. Within the Faculty of Rehabilitation Medicine we have at least 10 faculty members actively engaged in these research areas.

Under the leadership of Dr. John Greer, the transitioning to an Institute with a focus on interdisciplinary research in the four identified themes should enable investigators to capitalize on new funding opportunities. Finally one cannot dismiss the suggestion from Dr. Greer that the designation of an Institute will markedly strengthen this University's position within Campus Alberta Neuroscience.

Sincerely,



R.G. (Bob) Haennel Ph.D. FACSM
Professor & Acting Dean

/ce

January 8, 2014

E 407 Van Vliet Centre
Edmonton, Alberta, Canada T6G 2H9
Tel: 780.492.6583
Fax: 780.492.2364

Dr. D. Douglas Miller, Dean
Faculty of Medicine & Dentistry
University of Alberta
2J2 WC Mackenzie Health Sciences Centre
Edmonton, Alberta
T6G 2R7

Re: Development of the "Neuroscience and Mental Health Institute"

Dear Dr. Miller,

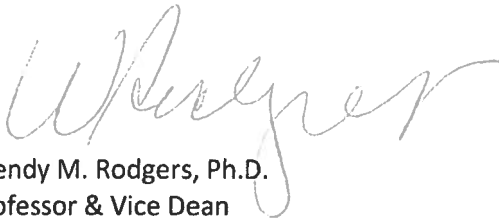
I recently met with Dr. John Greer to discuss the proposed "Neuroscience and Mental Health Institute".

I am well aware of the long-standing success of the 'Centre for Neuroscience'. Over the years, many of our faculty have been active members in the institute, and we currently have 5 active members with another few on the threshold. Some of the broadening of interests in the proposed institute might be what increases our participation. Our faculty members have been extremely strong contributors to the Centre, including taking the Graduate Coordinator role, for example. This is to say that collectively, and individually, we are committed to the continued success of this program.

The proposed changes appear positive from the perspective of our Faculty, in terms of giving higher visibility to the Institute, including some enhanced focus on psychiatry and related cognitive disorders, an area we would be keen to collaborate with, in future, opening up opportunities to study the role of fitness and physical activity in the prevention and treatment of these diseases and conditions.

I look forward to hearing discussions regarding the development of this Institute, and will support it on behalf of my Faculty and our researchers.

Sincerely,



Wendy M. Rodgers, Ph.D.
Professor & Vice Dean

c: Dr. Kerry Mummery, Dean
Dr. John Greer, Director, Centre for Neuroscience

7-55 Medical Sciences Building
Edmonton, Alberta, Canada T6G 2H7
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physiology@ualberta.ca
www.physiology.ualberta.ca

January 28, 2014

D. Douglas Miller, MD, CM, MBA, FRCPC
Dean, Faculty of Medicine & Dentistry
University of Alberta

Dear Dr. Miller,

Neuroscience and Mental Health Institute

As Chair of the Department of Physiology, I am pleased to add my backing to Dr. John Greer, Director of the Centre for Neuroscience, as he moves to transform the current Centre for Neuroscience into a Neuroscience and Mental Health Institute.

The Department of Physiology is a strong supporter of the Neuroscience community at the University of Alberta, and is proud to have been the source of important leadership in initial establishment of the Division of Neuroscience (Dr. R. Stein), subsequent formation of a Centre for Neuroscience (Dr. K. Pearson) and, now, the formation of an Institute (Dr. J. Greer).

Dr. Greer plays a significant role in the activities of the Department of Physiology, and will continue to do so as he takes on the additional responsibilities as founding Director of the Institute.

Sincerely,



Dr. James D. Young
Professor and Chair of Physiology

12-105B Clinical Sciences Building
Neurochemical Research Unit
Edmonton, Alberta, Canada T6G 2G3
Tel: 780.492.5994
Fax: 780.492.6841
glen.baker@ualberta.ca
www.psychiatry.ualberta.ca

April 8, 2014

Douglas Miller, MD, CM, FRCPC
Dean
Faculty of Medicine and Dentistry
University of Alberta
Edmonton, AB

Dear Dr. Miller,

Re: The Neuroscience and Mental Health Institute (NMHI)

By this letter, we would like to express our strong endorsement of this exciting initiative. This is a particularly appropriate time to be putting forward an application for the NMHI as a Translational Science Institute given the strong interest by several federal and provincial government agencies in building capacity in translational research in mental health and addictions. We have many strengths in foundational and clinical neuroscience at the University of Alberta, and bringing together those strengths in a united Institute will increase research collaborations, put us in a much stronger position for raising funds to support neuroscience and mental health research and education, and make us an enviable site for attracting world-class trainees and academic staff in the future. The presence of foundational science and clinical science co-leaders of the Institute emphasizes the importance we place on both supporting discovery science and facilitating its translation into clinical practice as well as our desire to increase collaboration to promote translational research. By complementing the expertise and infrastructure of the Hotchkiss Brain Institute in Calgary and the Canadian Centre for Behavioural Neuroscience in Lethbridge, the NMHI will help make Campus Alberta Neuroscience a national and international leader in translational neuroscience.

The Neurochemical Research Unit (NRU) was established in 1979 as an interdisciplinary research unit, and has continued to flourish with sustainability achieved through well planned recruitments and extensive collaborations (locally, nationally and internationally). The NRU has state-of-the-art analytical neurochemistry and imaging equipment to facilitate studies in model systems or patient populations. The NRU is a stimulating environment for research trainees, with undergraduate and graduate students from the Centre for Neuroscience interacting and collaborating with students and staff from the Department of Psychiatry and other Faculty of Medicine & Dentistry departments. We have had Neuroscience graduate and undergraduate students working in our laboratories for many years and we continue to take an active part mentoring in undergraduate and graduate laboratory and reading courses offered by the Centre for Neuroscience. The members of the NRU have contributed significantly to the excellent initiatives of the Centre for Neuroscience over many years. For example, Glen Baker was a founding member of the Centre and served on the planning and membership committee for several years. Kathryn Todd was

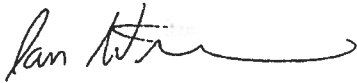
Director of the Centre as well as graduate coordinator, and Ian Winship has played a major role in expanding the recruitment of undergraduate neuroscience students through his work as Coordinator of the undergraduate honors program.

The time has now come to build upon the outstanding educational core of the Centre for Neuroscience and its affiliated researchers to bring together neuroscientists across campus in a united effort to markedly increase research capacity and strengthen the University of Alberta's reputation as a leader in translational neuroscience. The members of the NRU support this TSI initiative with great enthusiasm and look forward to working with their colleagues across the University of Alberta to make the NMHI a resounding success.

Yours sincerely,



Glen B. Baker, PhD, DSc, FCAHS



Ian Winship, PhD

Co-Directors, Neurochemical Research Unit

January 7, 2014

1098 Research Transition Facility, 8308 – 114 Street
Edmonton, Alberta, Canada T6G 2V2
780.492.0908, christian.beaulieu@ualberta.ca
www.mri.ualberta.ca

Dean, Doug Miller
Faculty of Medicine and Dentistry

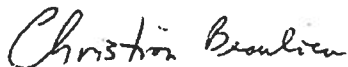
Dear Dean Miller,

RE: Neuroscience and Mental Health Institute

Myself and the rest of the team of the Peter S Allen MRI Research Centre are fully supportive of the creation of such an Institute focused on the Neurosciences. We are a core facility that serves and enables the neuroimaging research interests, both basic and clinical, of a number of faculty in Medicine and throughout the University. Brain imaging is the leading application in our Centre, followed closely by cardiac imaging in recent years. There are 21 current members of the Centre for Neuroscience that have utilized the MRI resources in our Centre. This includes senior and experienced researchers and young up and coming innovators that span a vast range of projects including stroke, Parkinsons Disease, ALS, multiple sclerosis, epilepsy, aging, neurodevelopmental disorders, depression, schizophrenia, addiction, spinal cord injury, stuttering, cerebral palsy, etc. In FOMD, the Centre for Neuroscience MRI investigators include the following from BME (Beaulieu, Gorassini, Malykhin), Neurology (Butcher, Camicioli, Giuliani, Kalra, Martin, Shuaib), Psychiatry (Durson, Greenshaw, Silverstone), Pediatrics (Rasmussen, Yager), and Physical Medicine (Mushahwar). A number of other extensive research MRI users are not Centre for Neuroscience members yet such as Gross (Neurology), Wilman (BME), Vohra (Pediatrics), Le Melledo (Psychiatry), and Coupland (Psychiatry). A recent \$17.5 million grant from CFI, AEAE, UHF, and ACF will see a new era of *in vivo* human imaging capability on campus that will greatly advance the measurements possible for interrogating the nervous system.

I would be happy to show you our MRI Centre located in the lower level of the Emergency wing and discuss the research, particularly with respect to our role as one of five key groups in the proposed Institute.

Sincerely,



Christian Beaulieu , PhD

Professor, AIHS Scientist and Scientific Director of Peter S Allen MRI Research Centre



Centre for Prions and Protein Folding Diseases,
2-04 Brain and Aging Research Building,
University of Alberta,
Edmonton, Alberta T6G 2M8
Phone:(780)-492-9024
Fax: (780)-492-9352
Email david.westaway@ualberta.ca

January 9th, 2014.

Douglas Miller MD,
Dean,
Faculty of Medicine and Dentistry
University of Alberta,
Edmonton AB,
Canada

Re: Neuroscience and Mental Health Institute,

Dear Dr. Miller,

From my perspective as Director of the Centre for Prions and Protein Folding Diseases (CPPFD) I write to express my thoughts on the proposed Neuroscience and Mental Health Institute.

Dr. Greer has shared his plans with me and I feel this is very much in the interests of the Neuroscience community on campus. It is quite apparent to me that the Centre for Neuroscience has "stepped up its game" under Dr. Greer's leadership and he must take all the credit for several new initiatives. The institute proposed under his leadership has the potential to increase our ability to pursue multi-lab investigations, to enhance the caliber of our studies and, ultimately, to secure more and larger research funding streams from both peer-reviewed and philanthropic sources. Certainly the ability to redress the current imbalance with the Hotchkiss Brain Institute at the University of Calgary is an important and realizable goal for the new institute.

With regards to our mandate in the CPPFD, Albertans and all Canadians face a 'silver tsunami' of dementia and our goal in the centre is to meet this challenge head-on. In this respect I believe the proposed institute can only be of help.

Lastly, I am in accord with the "satellite" administrative model proposed by Dr. Greer wherein the five participating centers retain organizational autonomy. This keeps our center's sightlines open and gives us room to manoeuvre after the 5-year term, or in the event of unexpected developments occurring within the 5-year term.

In sum, as Director of the CPPFD I express strong enthusiasm for the nascent Neuroscience and Mental Health Institute. Dr. Greer and his designated clinical leader have my full support for this important new initiative.

Sincerely,

A handwritten signature in black ink that reads "David Westaway". The signature is fluid and cursive, with a large loop at the end of the last name.

Dr. David Westaway,
Director, Centre for Prions and Protein Folding Diseases,
Canada Research Chair Tier 1, Prion Biology,
Scientist, AI-HS
Professor (Neurology), Department of Medicine



January 13th, 2014

Dean Douglas Miller
Faculty of Medicine and Dentistry
University of Alberta, Edmonton

Re: Initiative to form a Neuroscience and Mental Health Institute

Dear Dean Miller,

Please accept this letter on behalf of the Sensorimotor Rehabilitation Group in support of the initiative of the Centre for Neuroscience to form the Neuroscience and Mental Health Institute. Under the directorship of Dr. Richard Stein, the Rehabilitation Neuroscience Group was one of the core groups responsible for establishing the Centre for Neuroscience over 20 years ago. Since then we have continued to grow into a strong and collaborative group and have recently expanded our focus and name to the Sensorimotor Rehabilitation Neuroscience Group with Drs. Karim Fouad and Monica Gorassini as director and co-director, respectively. As a collection of researchers with a strong translational focus to improve the motor and sensory capabilities of people with damage to central nervous system, we are keenly invested into the establishment of an Institute for Neuroscience and Mental Health. Being housed under an Institute will greatly facilitate the research capabilities of our group as it will provide us with a greater presence to the University and to the general public in Alberta. The Sensorimotor Rehabilitation Neuroscience Group is one of the strongest groups at the University given our high level of productivity and impact. This is demonstrated by the many team/international grants and high-impact papers awarded to the members of our Group. For example: 1) Drs. Richard Stein and Vivian Mushahwar have each received team CFI/AHFMR grants on Neural Interfaces and Restoring Movement that includes 9 of the 16 members of the Group; 2) Drs. Jaynie Yang and Monica Gorassini have received a CRIO grant examining the effects of early motor training in infants and children with perinatal stroke in collaboration with Dr. Adam Kirton of the Alberta Children's Hospital in Calgary; 3) Drs. David Bennett, Monica Gorassini, Vivian Mushahwar, Arthur Prochazka and Ming Chan have all received highly competitive NIH funding and 4) Drs. Simon Gosgnach, David Bennett, Karim Fouad and Monica Gorassini have published in Nature/Nature Medicine. In addition, members of the Sensorimotor Rehabilitation Group have been instrumental in developing and running the highly successful graduate program in the Centre for Neuroscience over the past 20 years.

In summary, we strongly support Dr. John Greer's proposal to transform the Centre for Neuroscience into the Neuroscience and Mental Health Institute. Raising the profile, visibility, recruitment and fundraising capabilities of the Centre for Neuroscience by transforming it to an Institute will be very beneficial to the Sensorimotor Rehabilitation Neuroscience Group and we wish to be an integral part of this Institute if formed. Please do not hesitate to contact us if further information regarding our support is needed.

Sincerely,

Karim Fouad and Monica Gorassini



Douglas Miller MD
Dean
Faculty of Medicine and Dentistry
University of Alberta

January 7, 2014

Dear Dr. Miller,

RE: Institute for Neuroscience and Mental Health

I am writing to confirm my strong endorsement for the development of the Institute for Neuroscience and Mental Health at the University of Alberta. Given the breadth and depth of the neuroscience community at the University of Alberta, which includes excellence fundamental neuroscience, robust clinical neurologic, psychiatric, neurosurgical and rehabilitation activities as well as education with strong provincial, national and international links, this is a timely initiative at the University of Alberta. In particular, as Director of the recently created Multiple Sclerosis (MS) Centre at the University of Alberta, I eagerly look forward to being directly involved in the Institutes' activities and view the MS Centre's activities being integral to the overall operation and goal of the Institute of Neuroscience and Mental Health. Indeed, Multiple Sclerosis is a prototype neurologic disease in that there are components of inflammation as well as degeneration in the disease process. Moreover, many of the biologic and clinical issues implicated in MS apply to other neurologic diseases that will be addressed within the Institute's activities. Thus the MS Centre is an excellent fit with the Institute for Neuroscience and Mental Health at the University of Alberta.

Thank you for consideration of my remarks,

Christopher Power
Professor
Interim Director
MS Centre
Department of Medicine (Neurology)
University of Alberta

c. Dr. John Greer
Dr. Xin-Min Li

April 15, 2014

Douglas Miller MD
Dean
Faculty of Medicine and Dentistry
University of Alberta

Dear Dr. Miller:

Re: Institute for Neuroscience and Mental Health

As the co-chair of the Addiction and Mental Health Strategic Clinical Network (SCN) of Alberta Health Services, I am writing this letter to provide my support to Dr. Xin-Min Li's proposal "Institute for Neuroscience and Mental Health at the University of Alberta".

Addiction and mental health care is an important part of our health care system and of the field of neuroscience. This is a timely initiative at the University of Alberta which will build on a strong track record in fundamental neuroscience, clinical psychiatric expertise, as well as neurologic and neurosurgical activities.

The SCN has the mandate of engaging stakeholders in the dissemination and implementation of best evidence practices to prevent, treat and improve outcomes in addiction and mental health. We are strongly supportive of the proposed institute for Neuroscience and Mental Health at the University of Alberta.

Sincerely,



Cathy Pryce
Senior Provincial Director
Addiction and Mental Health
Strategic Clinical Network
Alberta Health Services



Canadian Depression Research
and Intervention Network
Réseau canadien de recherche
et intervention sur la dépression

www.cdrin.org

April 30, 2014

Douglas Miller, MD, CM, FRCPC
Dean, Faculty of Medicine and Dentistry
University of Alberta
Edmonton, AB

Dear Dr. Miller,

Re: Establishment of the Neuroscience and Mental Health Institute (NMHI) at the University of Alberta.

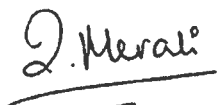
I am strongly in support of the creation of the Neuroscience and Mental Health Institute (NMHI) at the University of Alberta. As the Scientific Director and Co-CEO of the Canadian Depression Research and Intervention Network (CDRIN), I oversee the creation of regional Hubs of expertise networked across Canada. One of the objectives of these Hubs is to promote translational research and knowledge dissemination primarily in depression but also in related areas like post-traumatic stress disorder (PTSD). This network was funded by the Canadian government and linked with the Mood Disorders Society of Canada and the Mental Health Commission of Canada, with its secretariat located at University of Ottawa Institute of Mental Health Research.

CDRIN recently launched its first three Hubs, one of which is the Alberta Hub, with members from the University of Alberta, the University of Calgary and the University of Lethbridge as well as members from various mental health advocacy groups and policy makers. We greatly appreciate the financial support from Alberta Innovates-Health Solutions and Alberta Health Services, in support of the Alberta Hub.

The reason Alberta was selected to host one of the initial Hubs is in large part attributable to its strength in the domain of neuroscience research. I am therefore supportive of the establishment of the University of Alberta NMHI, as it clearly plants a “flag” of its core strength. I am sure that we can work with the Institute in the future in promoting research in mental health and addictions and in fund development programs to support such research. There are many prominent researchers in neuroscience and mental health at the University of Alberta and I have been fortunate to interact with several of them over the years, most recently in efforts to establish CDRIN. I am very familiar with the neuroscience setting in Alberta in general and I am sure that with the establishment of the NMHI at the University of Alberta to complement the strengths of the Hotchkiss Brain Institute in Calgary and the Canadian Behavioral Science Research Centre at Lethbridge that Campus Alberta Neuroscience will be a major player in neuroscience and mental health research, clinical care and education nationally and internationally.

These are exciting times for research in neuroscience and mental health, with federal and provincial governments working together with granting agencies, universities, industry, advocacy groups and health care regions to promote translational research and knowledge translation and dissemination in a combined effort to provide better health care and education. I am sure that the University of Alberta NMHI will be an outstanding player in these efforts, and CDRIN looks forward to working with the Institute. This innovative proposal to form a world-class Translational Science Institute is strategically aligned with the National and international focus, and has my enthusiastic support.

Yours sincerely,

A handwritten signature in black ink that reads "Z. Merali". The signature is written in a cursive style and is underlined with a single horizontal line.

Zul Merali, PhD
Co-CEO and Scientific Director.
Canadian Depression Research & Intervention Network (CDRIN)
President & CEO, uOttawa Institute of Mental Health Research
Vice-President Research, The Royal

**Canadian Institutes of
Health Research**

Institute of Neurosciences,
Mental Health and Addiction

**Instituts de recherche
en santé du Canada**

Institut des neurosciences,
de la santé mentale et
des toxicomanies



April 30th, 2014

Douglas Miller, MD
Dean, Faculty of Medicine and Dentistry
University of Alberta
Edmonton, AB

Dear Dr. Miller:

It is with admiration and appreciation that I write to add my endorsement for the initiative to establish a new Institute for Neuroscience and Mental Health at the University of Alberta. You and your colleagues are showing great leadership in encouraging the integration of several areas of strength within your University into a vibrant multidisciplinary institute linking the latest developments in basic and clinical brain research with the challenges of mental ill health, including addiction. This approach is consistent with the emerging consensus that many aspects of mental ill health and addiction arise from underlying dysfunction of specific neural networks and as such holds great promise of success.

Turning to the specific strengths at the University of Alberta that will ensure the rapid development of the Institute of Neuroscience and Mental Health, researchers in many departments and programs including Psychiatry, Neurology, Neurosurgery and Psychology already enjoy high regard at both the national and international levels for innovation and productivity in the broad domains of basic and clinical neuroscience. These activities will be complemented by other outstanding resources including the P.S. Allen Magnetic Resonance Research Centre, the MS Clinic, as well as the Neurochemical Research Unit. Given the growing realization that many aspects of neuropsychiatric conditions may arise from neurodegeneration, the opportunity to work closely with the Centre for Prion and Protein Folding Disease should give a real competitive advantage to this initiative.

As someone who is very familiar with the state of neuroscience and mental health research in Canada, I can say with confidence that your new institute will be leader in very short order. The emphasis at the University of Alberta on Translational Medicine will fit in beautifully with the opportunities to capitalize on new discoveries with very real diagnostic and therapeutic potential to the benefit of individuals living with mental ill health and other disorders of brain function.

University of British Columbia
3402 – 2215 Wesbrook Mall
Vancouver, British Columbia
Canada V6T 1Z3

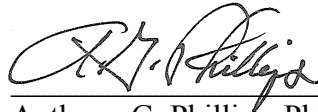
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In closing, may I extend my sincere gratitude on behalf of the neuroscience and mental health research community for this strong vote of confidence in an area of research with such great promise for improving the health of all Canadians.

I wish the University of Alberta great success in this venture and will be happy to assist in its development.

Yours sincerely,



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