The International Scientific Advisory Board’s 2015 Report on the Brain and Mind Institute
The Inaugural Brain and Mind Institute Symposium (IBMIS)

The Brain and Mind Institute (BMI) held its first Symposium on September 20, 2015 to highlight Western’s multidisciplinary talent in cognitive neuroscience. This year was special. We invited our International Scientific Advisory Board to the BMI for the first time to experience and share their thoughts on the BMI. The Board, which is composed of leading cognitive neuroscientists from around the world, met with our research team and saw first-hand the range of cutting-edge research taking place at Western.

As the BMI continues to grow, we plan to make the Symposium a regular event, where the entire BMI community can come together to share, learn and celebrate our myriad of research activities. We also hope to eventually expand our invitations beyond the BMI group, to other members of the Western community, paving the way for future collaborative possibilities in cognitive neuroscience.

-Melvyn Goodale (BMI Director)

The International Scientific Advisory Board (ISAB)

David Burr, PhD  
CNR Institute of Neuroscience  
Department of Psychology  
University of Florence  
Pisa, Italy

Jeffrey Schall, PhD  
E. Bronson Ingram Professor of Neuroscience  
Professor of Ophthalmology and Visual Sciences  
Director, Center for Integrative Cognition & Cognitive Neuroscience, Vanderbilt University  
Nashville, USA

Alfonso Caramazza, PhD  
Daniel and Amy Starch Professor of Psychology  
Department of Psychology  
Harvard University  
Cambridge, USA

Irene Tracey, PhD (absent for 2015)  
Nuffield Professor of Anaesthetic Science  
Director, Oxford Centre for fMRI  
University of Oxford  
Oxford, United Kingdom

Stanislas Dehaene, PhD  
Director, Inserm-CEA Cognitive Neuroimaging Unit  
Collège de France  
Paris, France

John Duncan, PhD (absent for 2015)  
Programme leader, Executive processes group  
MRC Cognition and Brain Sciences Unit  
Cambridge, United Kingdom
The International Scientific Advisory Board’s Response to BMI-Led Questions

1. Has the University made a wise investment in cognitive neuroscience?

Yes. The wisdom of the decision is endorsed by the recruitment of international scientific stars, by the international visibility through publications in top journals such as *Current Biology, Journal of Neuroscience, PNAS, Neuron*, and the *Nature* journals, by substantial funding obtained by the faculty as well as trainees competing for prestigious awards, by media coverage and by trainee placement. The investment has been leveraged through partnering to enhance postdoctoral trainees and foreign graduate students, with a Rotman postdoc in philosophy of neuroscience as well as commercial partners such as CISCO Canada for faculty chairs. We were impressed by the wise use of funds to enhance placement and productivity of the program, the spirit of collaboration and the sense of pride and positive opportunity expressed by the faculty and the trainees. In short, the BMI seems to have very effectively raised the profile of Western University internationally.

2. How does the BMI rank alongside other international centres?

The BMI is organized similarly to comparable neuroscience centers. As a relatively young center, it has potential to become one of the premier research and training centers in cognitive neuroscience in the world. Major assets include cutting-edge MR imaging center, state-of-the-art nonhuman primate research facility with macaques and marmosets, effective shared resources such as human body motion tracking systems and robotic arms, as well as the ability to attract international talent at the faculty and trainee level. This combination of assets is quite rare.
3. **What are our particular strengths in cognitive neuroscience?**

We were struck by the youth and vitality of the new faculty and the energy and passion of trainees. We were impressed by the established foci of strengths, in particular

- action perception,
- functional brain imaging,
- consciousness studies,
- NHP research opportunities with causal manipulations complemented by neuroimaging.

We recognize a number of emerging strengths exemplified by the research program on brain plasticity during development with relevance to education, including the rare ability to perform brain imaging studies in infants and children.

4. **Are there any weaknesses you can identify?**

We are concerned about a potential fragility of the BMI structure funded largely by external sources. This was manifest, for example, in uncertainty about the enduring support of the MR infrastructure that is so vital to much of the BMI research program.

Similarly, we would stress the core relevance of nonhuman primate research and the need to guarantee continued support of this work.

5. **What are likely to be our challenges as we move forward?**

Growth of BMI combined with the move into new space will present various challenges to be anticipated such as resource utilization and BMI membership.

Given that the BMI spans faculty in multiple departments and schools we believe it important that it develop a reporting line to the central administration such as to the Vice-President (Research).
Although it has been successful to date, as it grows the BMI may find it useful to formulate a clearer and cohesive research mission.

6. What advice can you give us about succession planning?

We recognize the tremendous scientific and organizational talents that Mel Goodale has brought to the establishment of BMI. It is therefore imperative to transition to a new director with comparable international reputation, breadth of scientific inquiry and negotiating skills. We can imagine the utility of performing an external search to identify such a director. However, we are mindful about the utility of a director who understands the particularities of local politics and potential conflicts and has developed effective relationships with the partners and stakeholders. Both alternatives might be investigated.

We would also suggest considering a governance structure that distributes expertise, responsibility and decision-making among other faculty.

7. Are there new directions in cognitive neuroscience we should be pursuing?

The faculty could take more advantage of recent advances in computational theory in perceptual, cognitive and movement science as well as neuroscience. The availability of high resolution MR with 100 micrometer resolution should have outstanding possibilities. Also, as the need for dynamic measures of brain function emerge in research programs the BMI may wish to consider supplementing their existing EEG capacity with an MEG machine as well as the scientific expertise in this area.
In Conclusion

The International Scientific Advisory Board looks forward to seeing how the BMI defines itself in the near future and expect a further evaluation in the short-to-middle term. The Board foresees a move to the next level, with growth and diversity of the BMI.

THANK-YOU

to the ISAB members for their time and contributions in supporting the future success of the BMI,

from the 2015 Symposium Organizing Committee, on behalf of the BMI team:

Mel Goodale
Jessica Grahn
Florence Lourdes
Denise Soanes
Andrew Vo
Jordynne Ropat