

# what's on our minds?

MONTREAL NEUROLOGICAL INSTITUTE AND HOSPITAL

THINKING AHEAD CAMPAIGN



MONTREAL  
NEUROLOGICAL  
INSTITUTE  
AND HOSPITAL  
*McGill University*

## MNI campaign co-chairs



“Under the leadership of David Colman, the MNI is embarking on innovative research programs that will improve the quality of life of patients. It is exhilarating to see the energy and enthusiasm of the many brilliant people working at the MNI – from determined young graduate students to eminent scientists and physicians.”

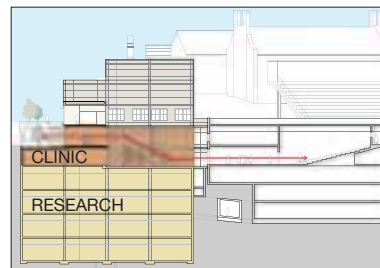
Dominic D’Alessandro, OC

“The MNI is a unique institution of excellence that deserves our support. It is an international leader, well-positioned to contribute to the world’s knowledge about the brain and nervous system – the final frontier of medical science.”

Jacques Bougie, OC

## building a global legacy

The Montreal Neurological Institute and Hospital (MNI) entered history in 1934, uniting the generosity of the Rockefeller Foundation with the vision of brain surgeon and researcher Wilder Penfield. As the first to map key functional regions of the living brain, Penfield charted a future where Montreal would give the world hope for conditions from migraines to stroke. Over the past five years, the Canadian Institutes of Health Research have recognized the talent of our scientists by approving our grant applications at twice the national rate. Abroad, former MNI fellows are improving quality of life in over 50 countries. Our nursing staff is involved in all aspects of treatment, displaying levels of commitment and compassion that earn them over 90% patient satisfaction.



Wilder Penfield's original 1929 sketch of the MNI (left) showing the layering of research and clinical care which will be mirrored in the new North Wing (right).

The MNI's successes have only begun. We are now embarking on the next phase of our expansion: **the Thinking Ahead Campaign, a five-year, \$40-million initiative to ensure our place at the forefront of brain research and care for years to come.** A major grant from the Canada Foundation for Innovation is propelling the expansion and renewal of our facilities. And by honouring us as a national Centre of Excellence in Commercialization and Research in 2007, the Government of Canada has awarded us \$15 million, and has challenged us to double that with matching funds.

Take a closer look at what's on our minds, and imagine the pride the whole community will feel looking back on the crowning achievement of our campaign: the legacy of better health for people around the world.

making it  
happen



Architect's drawing of the North Wing expansion: view from University Street.



# neuro

research renewed

To construct a map of the average human brain, Bruce Pike (left) and Alan Evans, along with their colleagues in the McConnell Brain Imaging Centre, capture hundreds of individual images using magnetic resonance imaging equipment.

# campaign priorities

**The Thinking Ahead Campaign:** a one-of-a-kind window into a brighter future for all those who live with neurological problems. By giving to the following priorities, you stand shoulder to shoulder with the unrivaled talent at the MNI as we integrate the best brain research with the most advanced and most compassionate care.

- **North Wing Expansion.** Big ideas can't fit in small spaces – and the Thinking Ahead Campaign would be impossible without our new pavilion. Increased capacity is central to our priorities.
  - Our state-of-the-art brain imaging centre will be at the heart of the planned facilities. Already among the top two or three in the world, it is poised to redouble our contributions to the understanding of brain disease, addiction and treatment.
  - Our scientists and clinicians will use new imaging technologies to test novel treatments in experimental models of neurological diseases.
  - Our Experimental Therapeutics Program will facilitate the transition of new therapies from the laboratory to patient care. This “bedside to bench and back to the patient” platform will develop and evaluate novel drug therapies for neurological diseases from concept through clinical trials. The end result will be an increase in effectiveness and safety at reduced time and cost.
- **NeuroEngineering.** Join a growing team of neurobiologists, chemists, physicists and computer engineers in cutting-edge research on brain-machine interfaces. Nanoscience offers unprecedented potential for inducing the nervous system to repair the effects of spinal cord injury, stroke, trauma or amputation – and the invention of wholly new materials and technologies will require all the resources we can muster.
- **NeuroPalliative Care.** In response to growing need, the MNI will create the first NeuroPalliative Care Centre in North America, dedicated to patients with terminal illnesses of the nervous system, such as ALS. This clinical care and research facility will develop and deliver specialized supportive treatments for patients who are at the end of life and help those who are losing a loved one. The NeuroPalliative Care Centre will also train and educate caregivers from other hospital-based and community-based palliative care facilities to provide the best support for the neurological patients and families who come to them for help.

“In this new century, our clinical work, our teaching, our scientific investigations – everything we do – must be outstanding, not merely excellent. That is how we keep our edge. That is how we will find ways to treat those that are untreatable now.”

David R. Colman, PhD  
Director, MNI



# thinking ahead

- **Spine and Spinal Cord Repair.** When one's backbone is injured, there can be serious complications if the nerve tissue in the spinal cord is injured. With your help, a new, dedicated centre staffed by expert surgeons and researchers from the MNI and other centres will put us in a position to offer real therapeutic advances to patients suffering from abnormalities and injuries of the back and spinal cord.
- **Faculty.** None of the MNI's lofty, life-giving ambitions can be realized without the best physician-researchers and scientists. Funding not only invests in an up-and-coming generation of brain science visionaries, but ensures ample support to design and equip their labs, and move their science forward in record time.
- **Clinical and Research Fellows.** Fellows come to the MNI for the unique opportunity it gives them to build on their MD or PhD by pursuing high-level clinical or research training in their specialties. Support for their hard work is key to developing new expertise, and shaping the face of future patient care and scientific advances.
- **Innovative Programs Fund.** Neuroscience is picking up speed – and our Innovative Programs Fund guarantees us the flexibility to be there with solutions when new questions crop up. These are the ambitious pilot projects that make tomorrow's headlines: high-risk, high-return avenues of research, which can only be seized by an organization that expects the unexpected.

"We are enhancing the ability of researchers and clinicians to work together and enable cutting-edge science to interface with novel treatment development and applications to human diseases."

Amit Bar-Or, MD  
Director, Experimental Therapeutics Program



# therapeutics

**“We cannot afford to stand still. We must always be searching for the best talent and take on the latest technologies. That is how we can advance science and bring new treatments to our patients.”**

**William Feindel, OC, GOQ, MDCM, D.Phil.**  
*MNI Director Emeritis (1972–1984)*  
*Pioneering neurosurgeon and scientist*



vision for care

## multiplying the impact of your philanthropy

We are entering the age of brain science. Nine out of ten discoveries about the brain have been made in the past 15 years alone – and the MNI leads the way in effective and efficient research, making every dollar count toward advances in neurological health.

By collaborating on their discoveries, our multiple sclerosis team is finding answers three times faster – a model for investigators everywhere. We’re also riding the crest of the brain mapping wave, thanks to 21st-century communications links that keep our McConnell Brain Imaging Centre at the hub of brain institutes worldwide. Year after year, the MNI has been able to convert its funding into more than 200 published studies, each one representing new insights that affect children, the elderly, and people in their productive prime.



**“The competition to gather experts in neuroscience is fierce. If we want the best researchers and the best clinicians to come to the MNI, we will need the financial resources to attract them here. This requires aggressive support from individuals, companies and the government. The MNI needs our support.”**

**A. Jean de Grandpré, CC**  
*MNI Advisory Board Member*  
*MNI Campaign Cabinet Member*

Patients need urgent help, and we’re already working fast. Now: *think ahead*. The Thinking Ahead Campaign will multiply those figures – and multiply the impact of our life-improving science. In five years, your generosity will attract top talent, expand our facilities and equip them with the tools they need to create a world of change in the treatment of brain disease. Think ahead, and *ask yourself*: will you be a part of this vision, and transform today’s research into tomorrow’s cures?

Five years. \$40 million. Give to the Thinking Ahead Campaign, and help the MNI achieve:

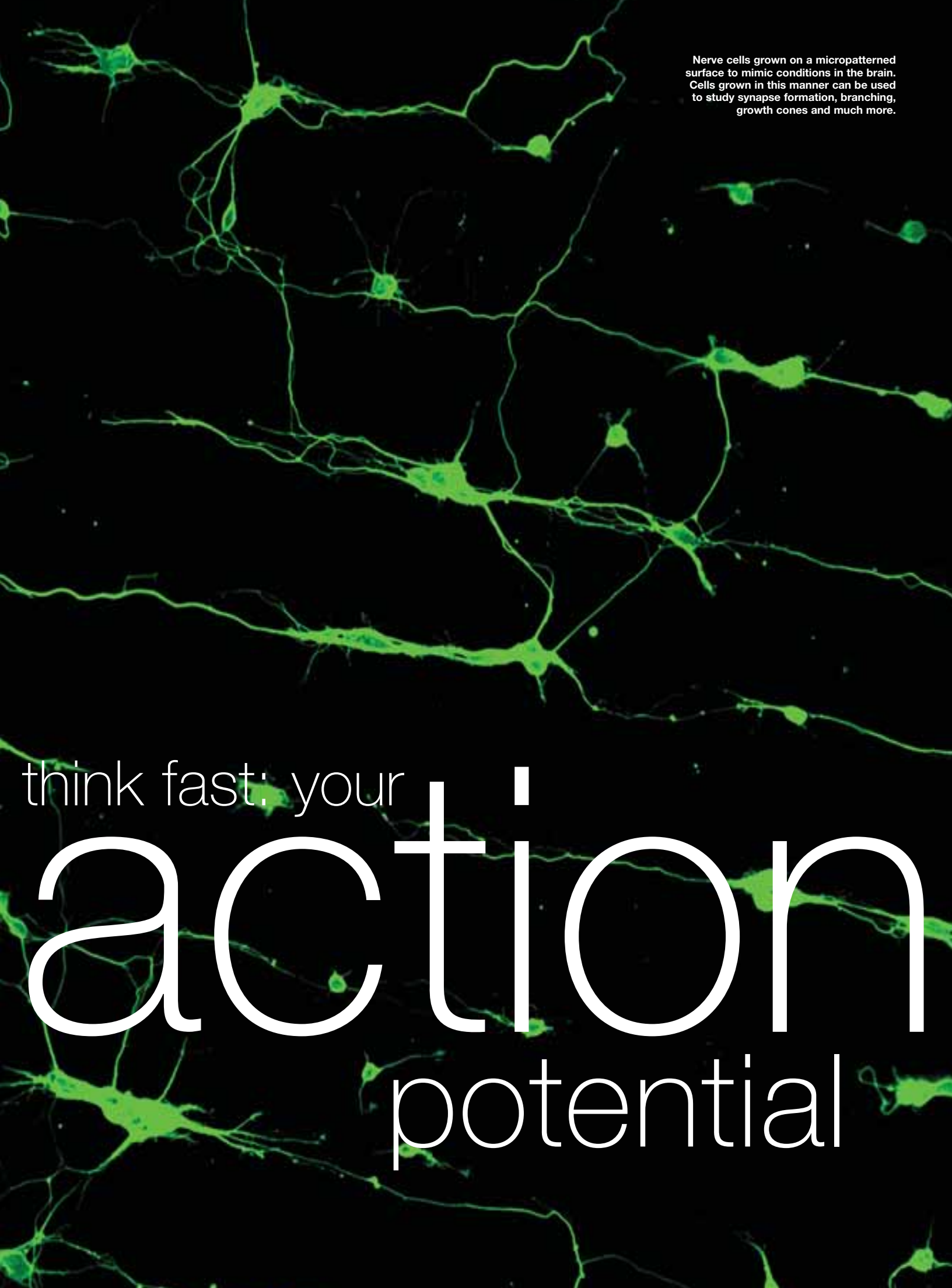
- The largest and most innovative brain imaging centre in the world
- New treatment avenues for brain disease
- A pioneering neuropalliative care centre
- A world-class spine and spinal cord repair centre
- Global leadership in understanding and repairing the brain

**“The MNI is the best possible place for a neuroscientist like me. Not only did the MNI jumpstart my research with start-up funds, but it provides a supportive environment that has helped me become an independent scientist.”**

**Alyson Fournier, PhD**  
*Scientist*



new faculty

A micrograph showing a network of green fluorescent nerve cells. The cells have bright green cell bodies and thin, branching processes extending across a dark background. The branching pattern is complex and interconnected, typical of neurons grown on a micropatterned surface.

Nerve cells grown on a micropatterned surface to mimic conditions in the brain. Cells grown in this manner can be used to study synapse formation, branching, growth cones and much more.

think fast: your

# action

potential

“The current excitement for research on the brain and the mind has seen the birth around the world of many new centres of excellence for cognitive neuroscience and related fields, but they are all following in the distinguished wake of the MNI, whose researchers continue to make major pioneering contributions as they have for over seventy years.”

**Daniel C. Dennett, D.Phil.**  
*MNI Advisory Board Member  
Tufts University, USA*

extending our leadership

Big ideas don't fit in small spaces:  
the **Thinking Ahead Campaign** launches  
our life-improving brain science into  
the future. *At the MNI, grey matters.*

**The Montreal Neurological Institute and Hospital**

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