

# Vanier Canada Graduate Scholarships

Writing a Winning  
Application  
Sept. 12/11

Profs. Lisa Travis, Shari Baum and Meyer  
Nahon, Associate Deans, GPS



# Vanier Canada Graduate Scholarships (CGS)

## Writing a Winning Application

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## Individual Consultations



# OVERVIEW: WRITING A WINNING APPLICATION

- Criteria for evaluation and selection
- How to request a reference letter
- What is 'leadership'? - The leadership reference letter
- Description of leadership and communication skills
- Research contributions
- Special circumstances
- Research proposal
- Lay title and lay abstract
- Project references (maximum 5 pages)



# CRITERIA FOR EVALUATION AND SELECTION

- University and Vanier Peer Review Committee
  - Based on three criteria, weighted equally:
    - Academic excellence, as demonstrated by past academic results and by transcripts, awards and distinctions
    - Research potential, as demonstrated by the candidate's research history, his/her interest in discovery, the proposed research and its potential contribution to the advancement of knowledge in the field, the potential benefit to Canadians, and any anticipated outcomes
    - Leadership (potential and demonstrated ability) as defined by personal achievement, involvement in academic life, volunteerism/community outreach and civic engagement



# VANIER PEER REVIEW COMMITTEE (WHO IS YOUR AUDIENCE?--CIHR)

- Glen Findlay Tibbits, Simon Fraser University

**Research Interests:** Mechanisms that regulate cardiac function, more specifically the role of cardiac proteins in regulating cardiac contraction and how these have been manipulated, through evolution, to enable cardiac function over a range of physiological conditions.

- Claude Alain, University of Toronto

**Research Interests:** Cognitive neuroscience, focusing on the brain processes that mediate perception and cognition of auditory patterns and events, specifically short-term memory and selective attention.

- Mauro Alini, AO Research Institute (Switzerland)

**Research Interests:** Cartilage and joint repair; Tissue engineering.

- Lynda Georgie Balneaves, University of British Columbia

**Research Interests:** Supporting people living with cancer in making safe and informed decisions about complementary therapies. Support tools for patients, families and health professionals faced with decisions related to complementary therapies

- Andrew Bateman, McGill University

**Research Interests:** Growth factors; Paracrine interactions; cancer, wounds.

- Alan Nigel Bateman, University of Leeds (UK)

**Research Interests:** Physiological and pharmacological regulation of GABA<sub>A</sub> receptor gene expression

# VANIER PEER REVIEW COMMITTEE (WHO IS YOUR AUDIENCE?--CIHR)

- Francesca Cicchetti, Université Laval

**Research Interests:** l'élaboration d'approches thérapeutiques neuroprotectrices et réparatrices pour les maladies neurodégénératives et psychiatriques.

- Christian Jobin, University of North Carolina (USA)

**Research Interests:** Pathological consequences of dysregulated immune host response to the intestinal commensal microbiota; e.g. the development of inflammatory bowel diseases (IBD).

- Leslie Myatt, University of Texas Health Science Center San Antonio (USA)

**Research Interests:** Control of fetal placental vascular reactivity, the role of oxidative and nitrative stress in placental function and the regulation of prostaglandin synthesis and action in intrauterine tissues at parturition

- Barbara L. Neis, Memorial University of Newfoundland

**Research Interests:** Occupational asthma in snow crab processing workers and fishing vessel safety, the human health impacts of restructuring in the Newfoundland and Labrador fisheries, and local ecological knowledge and science. Relationships between gender and globalization within fisheries.

- Anne Wilona Snowdon, University of Windsor

**Research Interests:** Injury Prevention, health sector leadership and management, automotive sector partnerships for product development, information technologies in health care.

- Shi Wu Wen, University of Ottawa

**Research Interests:** Health effects of folic acid and prescription drugs in pregnancy.

# REQUESTING LETTERS OF REFERENCE (CHOOSE REFEREES WISELY!)

- A good referee:
  - Knows you well
  - Has something to say about you and can support it with facts
  - Has credibility i.e. tenured, known in your field of research
  - Is supportive about providing the reference (test the waters, gauge their reaction when you ask for a reference)
- Letters addressing all evaluation criteria should be written by your research supervisor (previous supervisor; current supervisor, if your studies have been in progress)
- Leadership letter should not be written by your research supervisor, but someone who can and will attest strongly to your leadership experience and future potential



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# REQUESTING LETTERS OF REFERENCE (COACH YOUR REFEREES AND GIVE THEM AMMUNITION)

- What to provide:
  - Deadline and mechanism for submitting the letter
  - Information about the scholarship  
[http://www.vanier.gc.ca/eng/scholarship\\_details-  
renseignements\\_generaux.aspx](http://www.vanier.gc.ca/eng/scholarship_details-<br/>renseignements_generaux.aspx) and criteria for selection  
[http://www.vanier.gc.ca/eng/selection\\_criteria-  
criteres\\_de\\_selection.aspx](http://www.vanier.gc.ca/eng/selection_criteria-<br/>criteres_de_selection.aspx)
  - Up-to-date CV
  - Draft of your proposal or summary statements of contributions/activities
  - Memory jogs for important contributions



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## DESCRIPTION OF LEADERSHIP AND COMMUNICATION SKILLS (1 PAGE)

- List previous leadership activities and accomplishments according to the categories listed under selection criteria [http://www.vanier.gc.ca/eng/selection\\_criteria-criteres\\_de\\_selection.aspx](http://www.vanier.gc.ca/eng/selection_criteria-criteres_de_selection.aspx)
- Write a self-assessment detailing:
  - Impact of activities and accomplishments
  - How you judge yourself to be a potential Vanier CGS recipient and a leader in your research community



# WHAT IS 'LEADERSHIP'?

Potential and demonstrated ability in:

- Personal achievement (arts, athletics, entrepreneurial ventures, travel/study)
- Involvement in academic life (mentoring, governance, project management, professional societies, organization of conferences/meetings)
- Volunteerism, community outreach (charities, non-profit organizations)
- Civic engagement (political activity, internships, elected office)
- Other



# ASSESSMENT OF LEADERSHIP

- Goal achievement (according to vision for change and improvement)
- Self-management (establishes and achieves goals, prioritizes tasks, self-improvement)
- Integrity (personal values and accountability)
- Other characteristics (creativity, curiosity, initiative, courage, strategic thinking, addresses complex problems with success)
- Social skills (good personal and business relationships, communication and negotiation skills, well respected and dependable)



# RESEARCH CONTRIBUTIONS (2 PAGES)

- Define your academic/research achievements (activities and publications, patents and intellectual property rights) and their impacts – relate to current and future plans
  - Describe your role in each (contribution to collaborative research – identify collaborators, writing pubs)
  - Reasons for choice of publishing venue
  - Detailed significance of technical reports and of original research
  - Relevance to field of research and overall area (social sciences, humanities, engineering, biological sciences, health sciences, etc.)



# EXAMPLES OF RESEARCH ACTIVITIES

- Committee membership
- Consulting/contract activities
- Research development
- Research or technical reports
- Supervisory experience (i.e. training of students)
- Technology transfers (specify nature of activity and target audience)
- Involvement in public, private or not-for-profit sector activities
- Policy papers
- Presentations as guest speaker (public or invited lectures)
- Knowledge translation/dissemination activities
- Development of a graduate seminar program, journal club or similar activity



## SPECIAL CIRCUMSTANCES (1 PAGE)

- Identify/briefly explain any delay/interruption of study or conducting/disseminating of research (i.e. administrative responsibilities, family/health reason with start and end dates). Explain, do not make excuses
- Provide compelling rationale for doctoral studies at McGill if you have a previous McGill degree
- Students in combined undergraduate/doctoral programs
  - provide calculation of all months of doctoral studies (specify part-time periods)



# ELEMENTS OF A GOOD RESEARCH PROPOSAL (2 PAGES)

- A clear introductory statement to capture interest and orient the reviewer to your research
- Positioning of the proposed research in context of current knowledge in the field (background)
- Problem you want to solve (objectives/hypothesis/research question)
- How you will solve the problem (experimental or theoretical approach; methods and procedures)
- Impact of the project (contribution to advancement of knowledge, significance to field(s) supported by the selected granting agency)
- Provide well-chosen references throughout



# WRITING STYLE

- Think about who will read your application!
- Write for the non-expert (and a bit for the expert)
  - Be clear and concise
  - Use simple language – avoid highly technical language and define the technical terms you must use
  - Use short sentences that follow logically – tell a story
- Be credible
- Avoid grandiose annoying statements: “The best [...] in the world”  
“We will show for the first time”
- Avoid statements that can become contentious “XXXX is the future of YYYY”





# FORMATTING

- Respect page limits/font sizes/...
- Avoid fancy formatting
- Make the proposal visually pleasing, not crowded
- Use paragraph headings efficiently
- Provide some spacing between paragraphs
- Draft in word processing program; make sure it fits in space on the form
- Obtain advice and editorial assistance (supervisor, internal review process, knowledgeable others, attend “Would You Fund It? One-on-one editing session
- Proofread carefully for spelling and grammar



# LAY TITLE AND ABSTRACT

- Lay means lay!
- Don't just copy sentences from your proposal
- It's important: Members of the Final Selection Board may read this summary
- Write to communicate with them, your mother, other taxpayers and parliamentarians
- Emphasize significance rather than details
- For good examples, see featured scholars in slideshow of Vanier homepage at <http://www.vanier.gc.ca/eng/home-accueil.aspx>



# LAY TITLE AND ABSTRACT (EXAMPLE)

## Lay title

Autonomous and Opportunistic Capture of Satellites with a Robotic Arm

## Lay Abstract

Most people know it is extremely expensive to send a new satellite in space, and that manned spaceflights present enormous risks. But most people are not aware how crowded space is. With short-lived satellites and more than 50 years of space launches, the cluttering of defunct satellites and used rockets are jeopardizing space activities in the coming decades. Two solutions are being discussed: extending the life of satellites with on-orbit servicing to produce less debris and the active removal of existing debris. The research project proposed here aims to provide a technology that is critical to both of these solutions: a means to grab or dock to large objects in orbit without a human operator directly involved.

For this purpose, a facility, unique in Canada, at the Aerospace Mechatronics Laboratory, can reproduce the scenario of two spacecrafts at a reaching distance of each other. On one side, a mobile robotic arm plays the role of the service spacecraft, while a special helium balloon emulates a large free-floating object in orbit. This unique test-bed allows for hands-on testing of the methods destined for space: a key qualifying step between theoretical models and real applications. New behavior-based software will be developed to allow the robotic arm to observe, approach and grasp the tumbling airship as it quickly passes by a reachable area. A driver of innovation will be interdisciplinary synergy at the Center for Intelligent Machines at McGill.

On Earth, this research will impact the development of flexible solutions for robots in industry that can better co-exist with their human counter-parts, but also for robots of our future everyday-life. In space, from the Canadarm to the key role of Canadian systems on the International Space Station today, the Canadian space industry has proven its capacity for innovation and international cooperation in space robotics, let us hold this leadership role and secure a sustainable future on Earth and in orbit.

# THE ALL IMPORTANT FIRST PARAGRAPH

- A clear introductory statement to capture interest and orient the reviewer to your research
- Can make or break what the reviewer thinks of your proposal



# THE ALL IMPORTANT FIRST PARAGRAPH (EXAMPLE)

## Autonomous and Opportunistic Capture of Large, Uncooperative Free-Floating Objects using a Robotic Manipulator

Today's space industry faces many challenges in providing its vital services, such as telecommunications and global positioning systems, and its fundamental research on Earth observation, astronomy and micro-gravity. The proposed research aims to contribute to three aspects of future space endeavours which are the subject of vibrant discussions world-wide. First, the issue of active space debris removal (ADR) has risen to the level of a technology necessary to stabilize the population of man-made objects in space no longer serving a useful purpose, such as decommissioned satellites and used rocket stages (Liou et al., 2010). Second, the maintenance of satellites, such as refuelling, repairing and upgrading, is believed to be the design paradigm of the future and offers great opportunities for business in extending the life-expectancy and performance of future satellites (Joppin, 2004). Finally, the cost and hazard of manned missions in space is becoming a serious limiting factor in space activities and automation technologies now constitute an integral part of space mandates (Singer and Akin, 2010). The proposed research will study control strategies and algorithms to allow a robotic arm to autonomously capture an uncooperative free-floating object and secure physical control over it.



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# 10 MINUTE EXERCISE

- Work with a partner who is not in the same field as you
- Read each others' first paragraph
- Evaluate on a scale of 1 to 5 according to:
  - Is the message clear and easy to grasp?
    - Do you have a sense of both the general field and the problem that will be addressed?
    - Are any technical terms explained?
  - Does it capture your interest?
- Discuss ways to improve



# FINAL ADVICE

- Read and follow instructions!
- Consider who will read the application and the circumstances
- Keep it simple
- Avoid both excessive modesty and bragging...use facts in the most positive manner
- Portray yourself as enthusiastic, talented and dedicated
- Obtain assistance with editing and proofing
- Good management makes GOOD LUCK!



A bronze statue of a man in a coat and hat, holding a cane, standing in a park-like setting with trees and red flowers. The statue is the central focus, positioned in the lower-left quadrant. It depicts a man in a dark, textured bronze coat and a hat, holding a cane in his right hand and adjusting his hat with his left. The background is a lush green park with trees and red flowers, slightly out of focus. The text "Part 3: Individual Consultations" is overlaid in white, sans-serif font in the upper-right quadrant.

Part 3:  
Individual Consultations