

Department of Immunology

Strategic Plan
2019–2023



Immunology
UNIVERSITY OF TORONTO

Table of Contents

Quick Facts About The Department	1
Chair's Message	2
Executive Summary	3
Background	6
Strategic Framework	7
Education	8
Education: Undergraduate	8
Current Situation	
Strategic Directions	
Year 1 Priorities	
Education: Graduate	10
Current Situation	
Strategic Directions	
Year 1 Priorities	
Education: Post-Doctorate Fellows	12
Current Situation	
Strategic Directions	
Year 1 Priorities	
Research, Knowledge Translation and Commercialization	14
Current Situation	
Strategic Directions	
Year 1 Priorities	
Collaboration	16
Current Situation	
Strategic Directions	
Year 1 Priorities	
Enabling Strategies	18
Current Situation	
Strategic Direction	
Year 1 Priorities	
Appendix	20
List Of Interviews Conducted	
Steering Committee	

Quick Facts about the Department

Faculty

70

faculty located as follows:

9

Hospital for Sick Children

17[†]

Medical Sciences Building

2

Mount Sinai Hospital

1

St. Michael's Hospital

9

Sunnybrook Hospital

31[‡]

University Health Network

1

UofT Scarborough

11

new faculty members recruited since 2014

Research

Training

1,076

Undergraduate students

29

Specialist

274

Major

773

Minor

106

Graduate student

17

Applied MSc

20

Fundamental MSc

69

PhD

~180

Postdoctoral fellows

Themes

Cellular & Molecular Immunology

Development of the Immune System

Autoimmunity & Inflammation

Cancer Immunology & Immuno-therapy

Infectious Diseases

Mucosal Immunology

Primary Immunodeficiencies

Transplantation & Immune-Tolerance

Successes

1,330+

publication in past 10 years, with over 29,500 citations

\$70M+

in extramural research funding in the past 5 years

Achievements

Outstanding Track Record of Achievement

Identification of the T cell receptor

Identification of early hematopoietic stem/progenitor cells

Isolation of genes for Crohn's disease

Identification of CTLA4 immune-regulatory function

Function of adipose tissue regulatory T cells

Characterization of tyrosine phosphatases, SHP1

Isolation of primary immunodeficiency genes, CD3 ϵ

Mechanisms of T cell co-stimulation

Molecular characterization of positive selection of T cells

Description of an independent intestinal Immune system

Use of interferons for the treatment of SARS

Development of an in vitro system for the generation of T cells

#1

ranked for research in Canada – located at the University of Toronto

[†] incl. 4 Teaching Stream / Lecturers
[‡] 18 TGHRI; 10 PM-CC; 3 KRI

Message from our Chair

I am delighted to present the Department of Immunology's Strategic Plan 2019–2023. I look forward to the next five years, and beyond, as we implement the game-changing recommendations outlined in this document.

This new plan is an extension of the one developed for 2014–2018, which was the first formal strategic plan of our Department. It builds on the excellence of the successful initiatives put forward in 2014, expands on emerging opportunities and achievements, and takes into consideration the recommendations from the Department's 2017 External Review.

In building the plan, we consulted our stakeholders and outside experts, who provided input into the development of a revitalized set of guiding principles for the academic mission, research direction, and operation of the Department.

I am pleased to confirm that our 2019–2023 plan aligns well with the key themes of the Faculty of Medicine's new academic strategic plan, since Collaboration, Groundbreaking Imagination, and Excellence through Equity are part of the fabric of our strategy.

This exciting vision for the future of the Department of Immunology was achieved through the much-appreciated effort and dedication of the Strategic Planning Steering Committee. I am confident that with the implementation of this plan, we will continue to advance the research and academic mission of our Department and secure a strong future for Immunological discoveries and their applications at the University of Toronto.



J.C. Zúñiga-Pflücker, Ph.D.
Professor & Chair
Department of Immunology,
University of Toronto
Canada Research Chair in Developmental Immunology

Senior Scientist
Biological Sciences,
Sunnybrook Research Institute

Executive Summary

The focus is on Excellence. The February, 2017 External Review validated the current pre-eminence of the Department of Immunology. The challenge issued was to move the Department to another level: what lies beyond great in the Canadian context?

In agreeing to a second term, the Chair committed to building on the successes achieved through the implementation of the Department's first-ever strategic plan (2014–2018), addressing the opportunities identified by the reviewers and aligning with the direction provided by the new Faculty of Medicine's 2018–2021 Academic Strategic Plan. A Strategic Planning Steering Committee, chartered in September 2018, provided leadership to the process that included conducting interviews with leaders from across the system as well as consultation with faculty.

The strategy outlined supports the current Mission and Vision while reflecting the opportunity for the Department to embrace and leverage more fully its academic excellence and the attributes of courage, connection and curiosity. Two potentially game-changing initiatives have been identified: creating a stronger and more symbiotic relationship with post-doctoral trainees; and, putting in place the mechanisms to derive independent funding for collaboration and innovation. These two initiatives will occupy the time and attention of the Chair, together with continuing to advocate for infrastructural upgrades to the Medical Science Building node of the Department.

In addition, across all areas of the Department, opportunities to raise the bar have been identified. In the education portfolio:

— At the undergraduate level, the key challenge is to renew the Specialist program, enabled by commitments to expand the number of teaching faculty and mechanisms to engage a wider range of faculty members in the coordination of the program

— At the graduate level, while continuing to offer a strong Applied MSc program, the focus is on taking the research-intensive PhD offering to the next level, developing graduates who will excel in scientific roles, regardless of the sector.

These initiatives are supported by focused partnership efforts designed to provide faculty and students with expanded opportunities to grow technical and leadership skills locally, nationally and internationally.

In the research portfolio, expectations are in place for continued high performance against the current benchmarks. This success will be facilitated through the addition of expertise in big data/computational science and by continuing to provide additional core facilities. Close attention and support will be provided to onboarding new faculty while continuing to offer mentorship and development opportunities to current faculty.

Success will be enabled by an efficient and effective group of administrators, demonstrating respectful autonomy, while working closely with their different clients and client groups. Department systems and processes will continue to be upgraded to foster collaboration and support sustainability in alignment with the Faculty of Medicine's strategic Enabler 2.

This plan is summarized into six goals together with the associated strategies, with the full planning document outlining more specific steps and metrics. The Executive Committee will provide oversight to the implementation of the plan with update reports from the Chair being made to faculty on a regular basis.

Summary of Strategic Directions

1

Education: Undergraduate

Goal: To attract top first year students and develop them into the strongest possible graduate student candidates

- 1.1 Expand faculty resources
- 1.2 Renew the Specialist program
- 1.3 Strengthen and diversify course offerings
- 1.4 Continue to explore and implement technological enhancements
- 1.5 Seek additional opportunities to build research skills
- 1.6 Enhance the visibility of the program.

2

Education: Graduate

Goal: To be known as THE school to attend to obtain a research-intensive PhD or an applied MSc in Immunology.

- 2.1 Create a premier PhD program, recognized as top tier in N. America
- 2.2 Strengthen the Applied MSc program
- 2.3 Diversify program offerings to prepare trainees for a range of career options
- 2.4 Expand the student pool
- 2.5 Strengthen the student experience.

3

Education: Post-doctoral Fellows

Goal: To strengthen the post-doctoral community and its connection to the Department

- 3.1 Strengthen post-doctoral leadership while creating stable infrastructure within the Department
- 3.2 Foster broader collaboration among post-docs and between post-docs and the Department.

4

Research, Knowledge Translation and Commercialization

Goal: To foster breakthrough discoveries and escalate real world impact that influences scholarship, policy and health outcomes

- 4.1 Continuously improve facilities and upgrade equipment
- 4.2 Continue to strengthen the pool of academic talent
- 4.3 Continue to nurture collaboration and support faculty to achieve excellence
- 4.4 Seek additional funding.

5

Collaboration

Goal: To grow and strengthen relationships that support immunologic education research and innovation excellence

- 5.1 Continue to develop education and research opportunities for students
- 5.2 Strengthen international ties in areas of Department strength
- 5.3 Strengthen national and local presence and contributions.

6

Enabling Strategies

Goal: To provide effective and efficient administrative support

- 6.1 Develop a stronger culture of respectful autonomy among administrative staff
- 6.2 Modernize, update and streamline systems in order to support collaboration and sustainability
- 6.3 Integrate the values of diversity and equity into all Departmental initiatives.

Background

The Chair, beginning his second term in 2018, initiated this strategic planning update building from the Department's first ever 2014–18 strategic plan. Enormous strides forward were made over the previous five years, including the introduction of a two-year non-thesis-based MSc program, the implementation of a graduate professional development course, successful recruitment of several new faculty members and upgrading of significant parts of the Medical Sciences Building. The External Review conducted in February 2017, in recommending the appointment of the Chair for a second term, bestowed accolades on the performance of the Department and also the quality of the leadership provided by the Chair. The Review did identify areas for consideration when developing the next strategic plan including: the introduction of a PhD only admissions for thesis-based graduate students; determining the courses needing to be developed at the undergraduate level; and identifying scientific areas of focus for recruitment purposes.

A Strategic Planning Steering Committee¹, chartered by the Chair, began its work in September, 2018 by approving its terms of reference and work plan. Two subsequent meetings as well as eleven stakeholder interviews² informed the development of a draft strategic framework that was discussed formally with faculty during the November Faculty Meeting. At much the same time, the new Faculty of Medicine's (FoM) strategic plan (2018–2021) was released. There is strong alignment across the plans with the importance being noted of the FoM's focus on developing "infrastructure, policies and technology that compel collaboration and support sustainability". A further meeting of the Steering Committee in February finalized the content of the plan, which was rolled out formally at the March, 2019 Faculty Meeting.

¹ List of members included in Appendix
² List of interviewees included in Appendix

Strategic Framework

Vision

International leadership for improving health through innovation and excellence in immunology research, education and clinical translation

Mission

To prepare future leaders in immunology to improve the health of individuals and populations through discovery, its application and the communication of knowledge

³ **Ownership:** of results and of success, of moving things forward, of creating the culture and environment; being highly accountable individually, to colleagues, partners and funders
Excellence: at the individual level, across the Department and in partnerships whether local, national or international
Engagement: personal drive, focus and commitment, with a relentless pursuit of discovery and innovation
Mentorship: fostering the success of others; collaborating and sharing knowledge to move toward the vision.

The opportunity pursued during the strategic planning process was to identify the mechanisms to move a high performing Department from great to epic in pursuit of its **Vision**.

Most of the foundational elements are in place. This plan identifies and proposes changes to those aspects of current **Mission** that either have the potential to enable a higher level of performance or are currently holding the Department back from achieving its full potential.

Building from the Values³ that are already in place, three behaviours are emphasized that will support the attainment of success over the next five years:

- **Curiosity:** about our science, new frontiers, new relationships, new ways of doing things, new ways of thinking
- **Connection:** in the Department, across the Faculty of Medicine and the University of Toronto, nationally and internationally. Finding ways of being more inclusive and fostering diversity such as through enhanced mentoring and development
- **Courage:** to take on new things, continue to be trailblazers, to be ourselves, to demonstrate ownership and compassion.

Education

Undergraduate

1

Goal

To attract top first year students and develop them into the strongest possible graduate student candidates.

Key Metrics:

1. Increased number of courses
2. Steady state of 15-20 Specialist Students
3. Expanded number of faculty teaching
4. Increased awareness of the Department among the strongest Year One Life Science students
5. Higher levels of engagement with the Department reported by student
6. Increased number of students apply for and are accepted into the Department's Graduate Programs.

Year 1 Priorities

1. Hire new Teaching-Stream Assistant Professor
2. Introduce new courses (IMM385, IMM431)
3. Begin running new online version of IMM340
4. Formalize brand ambassador role with current Specialist students.

Current Situation

The Department offers a Specialist (29 students), Major (274 students) and Minor (773 students) degree. The program, on the whole, is well regarded and there is competitive enrolment. The exception is the Specialist Program, which saw a decrease in numbers some ten years ago and needs further changes in order to revive enrolment. The commitment is to provide a rigorous undergraduate academic experience that will develop high potential graduate students. While there are strong courses and faculty in place, the opportunity is to create a more personalized experience by expanding the number of courses offered and reducing class size. Particularly for the highly prized Specialist stream, increased diversity and flexibility is sought in the course offering. The Department continues to be somewhat invisible to Year One students and more can be done to foster a community of learning by using technology to increase flexibility for current students and to attract non-IMM students or non-UofT students. Generally speaking, students continue to want more access to research opportunities. At the macro level, uncertainty exists as to the possible implications of threatened changes in funding and requirements from the province and also at the faculty level.

- In summary, the issues identified to be addressed:
 - diversifying course selection within the Specialist program
 - increasing opportunities for students to be at the bench
 - expanding teaching and coordination resources
- modernizing teaching and personalizing the learning experience.

Strategic Directions

Key to success is accessing the right resources: faculty, course coordinators, post-docs and teaching assistants. To that end and given the issues and opportunities facing the program, it is proposed to:

1. Expand faculty resources
 - Increase the number of teaching faculty positions
 - Encourage and acknowledge teaching by research institute faculty in undergraduate courses
 - Recruit more faculty interested in teaching at the undergraduate level
 - Encourage the adoption of best practice teaching approaches
 - Assess viability of transitioning Associate Chair in Undergraduate Studies position over time to a teaching stream faculty member.
2. Renew the Specialist program
 - Strengthen the brand e.g., support current students to act as 'brand ambassadors' by posting videos about their experience, etc
 - Strengthen the opportunity for additional research training:
 - Introduce an additional research project course in Year 3 (IMM385Y1)
 - Provide guaranteed entrance to the new IMM385 course
 - Actively pursue the top 10 percent of the IMM250 student enrolment to encourage application to the Specialist program
 - Support the implementation of a strong mentorship program.
3. Strengthen and diversify course offerings
 - Implement new course offering in 4th Year – Immunotherapy (IMM431H1)
 - Identify mechanisms to personalize the student experience.
4. Continue to explore and implement technological enhancements
 - Deliver existing courses online as additional summer offerings
 - IMM340H1 (Year 3 course) is to be delivered in a hybrid form with online lectures and in-class tutorials as well as in-class mid-term and final exams. This should be extended to other 3rd year courses, such as IMM350H1
 - Increase the use and improve the functionality of new teaching platforms, e.g., TopHat.
5. Seek additional opportunities to build research skills
 - Strengthen the opportunities for mentorship in the labs (e.g., by engaging post-docs)
 - Better profile summer international research placement opportunities
 - Continue to recruit faculty with an interest in working with undergraduate students
 - Encourage faculty to put projects forward for ROP399.
6. Enhance the visibility of the program
 - Increase faculty presence earlier in the undergraduate curriculum by extending access to Year 2 courses to first year students
 - Continue to support the student leadership group including efforts to build the community working with Trinity College
 - Strengthen OQUIC conference
 - Increase enrolment in the short term e.g., by extending the program to be of interest to third year students from the current schools and expanding sponsor support
 - In the longer term, consider extending the conference beyond Ontario and Quebec schools.

Education Graduate

2

Goal

Key Metrics:

1. A minimum of 80% of students admitted annually into the graduate program achieve candidacy for PhD
2. Faculty from top universities offer post-doc positions to our PhD graduates
3. Availability to students of ready access to mental health
4. Academic environment enables students to excel as measured by student assessment of the following: ready access to top class faculty; valuable learning experiences available; expectations clearly articulated and regular feedback provided; appropriate levels of support; invitations to provide input to and feedback on the graduate program
5. Ongoing achievement of high levels of student publications.

Year 1 Priorities

1. Implement increased stipend for Applied Immunology MSc students
2. Implement expedited entry to PhD for Applied MSc students (based on evaluation by final exam committee)
3. Implement PhD only admissions for Fundamental Immunology
4. Design two modular courses (biostatistics and communications/writing) as part of the GPD program to be rolled out in the Fall of 2020.

Current Situation

Widely regarded as an excellent educational program, the Graduate Department offers a Masters in Applied Immunology (17 students) and then a more research-intensive Masters (20 students) or PhD (69 students) in Fundamental Immunology. The students are spread across the affiliated hospital research institutes and the Medical Sciences Building (MSB) with the larger percentage of fundamental immunologists being located at MSB (34%) and the larger percentage of the applied immunology students (38%) at Toronto General Hospital Research Institute. The introduction of the Applied Immunology Masters has gone well and the career trajectories of graduates, even in the early years, is impressive. Administration has been streamlined with the move to a single application deadline for both programs. Creating a great graduate learning experience continues to be of importance to faculty and more recently, based on student feedback, mental health counsellors have been introduced both at MSB and at 500 University Avenue.

- In summary, the issues identified to be addressed:
- Finding mechanisms to improve the attractiveness of the Applied MSc program: the level of stipend support for the Applied MSc makes it uncompetitive with most other MSc -level programs
- Expanding direct entry to the PhD Fundamental program: to be considered a top PhD school, direct entry applications and enrolments to the PhD ae preferred over entrance through the MSc program. Currently as many as 50% of PhD students enter through the MSc Fundamental route
- Enhancing career development approaches: there is need to refresh the positioning of the Graduate Professional Development Program (GPD). Mechanisms to support students wanting a career inside and outside of academia were identified as part of the last strategic planning cycle. Concerns now exist as to whether sufficient weight is being placed on an academic career path
- Providing access to emerging and/or valued course material: need to diversify course offerings and increase the PhD course load with new modules on e.g., statistics, bioinformatics, writing, and graduate professional development.

Strategic Directions

The next five years are about continuously strengthening the programs that are now in place to provide the highest quality academic experience. With a focus on intellectual rigour and excellence, students will be well prepared for high level scientific roles inside or outside of the institution. In keeping with the Faculty's strategic plan, student wellness is fostered both through the provision of appropriate support resources and by providing more avenues whereby students have input into decisions about the program. A robust communication plan will accompany the introduction of these changes. More specifically over the next five years, it is proposed to:

1. Create a premier PhD program, recognized as top tier in N America
 - Eliminate entry into MSc in Fundamental Immunology program leaving access to only a PhD entry. Those students unsuccessful in achieving PhD candidacy will continue to graduate with a MSc degree.
2. Strengthen the Applied MSc program
 - Increase stipend to cover (together with internships) all tuition fees
 - Introduce mechanisms to facilitate the entry of Applied MSc students into the PhD program.
3. Diversify program offerings to prepare trainees for a range of career options
 - Shift the GPD program to a modular design that includes the mandatory Individual Development Plan
 - Introduce modular course options – starting with bioinformatics, communications-writing and biostatistics
 - Increase credit requirements from 2.5 to 3.
4. Expand the student pool
 - Attract additional MD-PhD candidates
 - Add strong international students sourced through working in conjunction with FoM international recruitment initiatives.
5. Strengthen the student experience
 - Continue to support student leadership
 - Engage students on a regular basis when considering changes to the graduate program design and delivery
 - Actively support the introduction of the new FoM process for evaluating supervisors
 - Continue to offer regular "Coffee Talks" with the Graduate Coordinator
 - Extend informal mentoring system so that senior PhDs mentor more junior PhDs
 - Increase awareness of access to mental health resources for students, expanding the dialogue to reduce stigma.

Education

Post-Doctoral Fellows

3

Goal

To strengthen the post-doctoral community and its connection to the Department.

Key Metrics:

- 1. Increased sharing of knowledge and ideas across labs
- 2. Increased # of post-doc events
- 3. Increased attendance of post-docs at Department events
- 4. Increased # of post-docs acting as teachers and mentors.

Year 1 Priorities

- 1. Identify faculty leadership and formalize the infrastructure
- 2. Engage in initial discussion regarding areas of common interest with the Office of Research Training at the University Health Network.

Current Situation

Given the renown of many of the Department's faculty members, there are many post-docs located across the affiliate hospitals research institutes and MSB. Post-docs are not formally registered with the Department in that they contract directly with faculty members. Their focus is primarily on their research projects and publishing. However, many also wish to round out their academic skill set by being more engaged in teaching and mentoring. The supports available within host institutions for the post-docs vary e.g., UHN and Sick Kids have highly regarded and engaging programs, providing a range of skill-building offerings for researchers. However, not all post-docs have access to this level of programming. The Department, in-keeping with most other FoM departments has struggled to engage and access the strengths of this group. The External Reviewers noted that the post-docs continue to be isolated from the Department, which means that their skills, talents and range of educational backgrounds are not being leveraged.

- In summary, the issues identified to be addressed:
- Bringing the post-docs together to develop a community where they can support and learn from each other
- Creating additional opportunities for new research approaches to be transferred across labs
- Providing openings for further mentorship and teaching capability development.

Strategic Directions

The next five years are about continuously Over the next five years, the Chair is committed to finding a way forward that will create sufficient structure for the post-docs and Department to enjoy a stronger symbiotic relationship. To that end, it is proposed to:

- 1. Strengthen postdoctoral leadership while creating stable infrastructure within the Department
 - Encourage identification of 1-3 post-docs to serve as liaison/s with the Department
 - Appoint faculty co-leads: one at MSB and one from a research institute
 - Allocate administration support for co-ordination and develop a listing of all post-docs in the Department
 - Clarify benefits offered by the Department e.g., library access; skill development opportunities, mentorship
 - Provide support budget
- 2. Foster broader collaboration among post-docs and between post-docs and the Department
 - Support the hosting of networking events and journal clubs
 - Investigate fostering closer relationships with the offices of research trainees at affiliated hospitals
 - Encourage attendance at current Department events, including the summer retreat
 - Introduce a post-doc session and lunch in conjunction with the BD-Biosciences Immunology Post-Doctoral Award Lecture
 - Introduce a Post-Doc collaborative research award.

Research, Knowledge Translation and Commercialization



Goal

To foster breakthrough discoveries and escalate real world impact that influences scholarship, policy and health outcomes.

Key Metrics:

- 1. Ongoing achievement of research milestones by current faculty
- 2. Research milestones achieved by incoming faculty
- 3. Additional infrastructure funding secured
- 4. Equipment from collaborative CFI grant awards is placed within the core facilities
- 5. High levels of faculty turnout at Department retreats
- 6. Additional philanthropic/industry funding secured
- 7. Increased engagement of alumni.

Year 1 Priorities

- 1. Recruit one faculty member
- 2. Recruit a bioinformatics expert to teach a GDP module and provide research support to faculty
- 3. Develop a research themes directory
- 4. Hold first annual research oriented off-site retreat for faculty
- 5. Host one additional alumni event
- 6. Develop at minimum three funding requests to philanthropists and industry

Current Situation

The University of Toronto's Department of Immunology (UT-DOI) was described by the External Reviewers as a research-intensive department with a strong track record of grant funding and publishing. Members of faculty are spread across the research institutes of the academic hospitals with about twenty percent being housed in the Medical Sciences Building (MSB) on campus. MSB faculty tend to provide the leadership of the Department and are the nucleus for many of the Department's activities.

Members of faculty enjoy international reputations and are invited to conferences around the globe. This has supported the recruitment of additional strong academicians in the last few years, all of whom are expected to make strong teaching and research contributions. New faculty members describe a highly collaborative and supportive environment where the expectations of high levels of performance are clearly articulated. While grant funding has become increasingly competitive, UT-DOI faculty members have continued to be successful. Much of the needed equipment is available centrally, but not all of it and that can present challenges to the MSB faculty when access is required on a regular basis for a study. Researchers resident in the research institutes benefit from having access to additional resources within the research institute.

A number of collaborative initiatives are in place, bridging between MSB and the hospital research institutes and between UT-DOI and its cognate departments. The establishment of the new role of Associate Chair Research to provide additional support to MSB faculty is acknowledged and valued by faculty in terms of having someone to turn to for support in addition to the Chair.

- In summary, the game changing issues identified to be addressed:
 - Infrastructure and space needs at MSB
 - Additional funding to foster collaboration and innovation.

Strategic Directions

The intention is clear – continuing to be a top performing Department according to the generally accepted research milestones while creating a sustainable future through attracting top talent, including in the area of big data/computational science, fostering collaboration both within the Department and more broadly, and securing the necessary infrastructural supports. To that end, it is proposed to:

1. Continuously improve facilities and upgrade equipment at MSB

 - Bring MSB lab space up to standard and maintain it on an ongoing basis
 - The Chair is committed to improving the MSB infrastructure and creating space equity as soon as possible
 - Set up a core genomics facility and continue to update the flow cytometry core
 - Continue to advocate for further operational funding and for the application of Infrastructure Operating Fund awards to cover core operating expenses.
2. Continue to strengthen the pool of academic talent

 - Recruit a minimum of two new faculty members
 - The search will be international for an early or mid-career scientist with potential. The Search Committee will help narrow the areas of interest, with strong arguments being made for finding faculty in the areas of neuroimmunology, microbiome and cell/structural biology
 - Diversity will be a key consideration
 - Each new faculty member will receive a renovated lab on the 7th Floor, MSB
 - Joint recruitments are planned in immunoengineering (with IBBME) and computational biology (with Molecular Genetics)
 - Recruit an expert in bioinformatics and big data at the research associate level to provide in-house expertise for research and teaching purposes
 - Provide ongoing mentoring and support to junior faculty.
3. Continue to nurture collaboration and support faculty to achieve excellence

 - Organize events of interest to faculty: seminars, external speakers, retreats
 - Hold one research-focused faculty meeting a year off-site
 - Expand collaborative efforts, including CFI grant opportunities, to support infrastructure development
 - Create an online directory of research themes in departmental labs that can be accessed and updated by faculty to facilitate collaboration
 - Continue to encourage efforts of research institute faculty to support strategic initiatives and take on leadership roles within the Department and more broadly.
4. Seek additional funding

 - Continue to deepen relationship with alumni
 - Provide resources to develop and execute a plan to secure funding from private donors/patrons
 - Develop and implement a plan to attract additional industry funding.

Collaboration

5

Goal

To grow and strengthen relationships that support immunologic education, research and innovation excellence.

Key Metrics:

- 1. Expanded undergraduate application pool for summer global research placements
- 2. Expanded # of PIs providing co-supervision internationally
- 3. Additional international research collaborations in strategic areas of focus
- 4. Successful bid to host 2025 conference of the International Union of Immunological Societies

Year 1 Priorities

- 1. Access funding for undergrad students not enrolled in the QEII Program through a MITACS grant
- 2. Implement Applied MSc student placements with the Hudson Institute
- 3. Identify partnership opportunities with UHN Office of Research Trainees (ORT).

Current Situation

Over the last five years, a number of international partnerships have been put in place in countries as far afield as Australia and South Africa that have been successful in providing research training opportunities for undergraduates while also fostering collaborative research opportunities. Both the University of Toronto and the FoM are committed to seeking out further international opportunities and given the Department's stellar reputation, there continue to be no shortage of opportunities at all levels, to partner on creating interesting and enriching learning and research initiatives.

- In summary, the issues identified to be addressed:
 - Establishing more partnerships that provide access to additional funding especially for students; and
 - Increasing the number of international student exchanges.

Strategic Directions

The leadership of the Department is committed to providing international experiences for as many students as possible as a way to foster their growth to becoming world class scientists, contributing in a number of different ways to global health. While value is seen in formal collaboration agreements, rich research exchanges will be encouraged at the faculty level, including opportunities for co-supervision of students. Attention will also be paid to important relationships nationally and locally, including those that will support stronger post-doc engagement with the Department and those with the potential to lead to additional funding. Many faculty members will be engaged to build multi-level relationships in these organizations. Given the above, it is proposed to:

- Continue to develop education and research opportunities for students
 - Extend summer QEII program (given that the overall program is renewed) for undergraduates that also offers a Trinity course credit
 - Approach industry and corporations for scholarship awards
 - Explore joint graduate programs with other institutions e.g., with the Hudson Institute for possible research collaborations and co-supervision of graduate students
 - Harness the growth in, and reach of, the Beyond Sciences program which is expanding with new chapters around the globe. It now includes students from more than 60 countries. Opportunities exist to strengthen links among students, such as through student exchanges
- Strengthen international ties in areas related to the Department's research strengths
 - Across FoM and the University, as well as internationally (e.g. with Chiba University in Japan), the focus is on research collaborations, facilitated through undergraduate and graduate student as well as postdoctoral fellowship exchanges
 - Create multi-level relationships with partner institutions to reduce dependence on any one individual
 - Identify and pursue prospects collaboratively for supporting specific infrastructure needs.
- Strengthen national and local presence and contributions
 - Continue to provide leadership in the Canadian Society of Immunology
 - Continue to provide leadership to national clinical registries and trials
 - Explore partnering with local research institutes to access additional training opportunities for graduate and postdoc trainees.

Enabling Strategies

6

Goal

To provide effective and effective administrative support.

Key Metrics:

1. Continuous improvement initiatives are in place, utilizing data provided by regular client feedback
2. Clear role statements for administrative staff
3. Supports in place for administrative staff to succeed
4. Efficient and helpful faculty interaction
5. Efficient and respectful interactions with other departmental staff
6. On-time and on-budget upgrades and changes to Department systems and processes

Year 1 Priorities

1. Refine Undergraduate / Communications admin position, and fill the post
2. Engage FoM's Human Resource specialists to facilitate updating and streamlining current responsibility statements
3. Design and implement a process for gathering feedback from different 'client' groups on a regular basis
4. Provide support to the upgrading of the MSB building
5. Support recruiting efforts and the onboarding of new faculty

Current Situation

Support to the Department is provided by an administrative group co-located at the MSB. The last five years have been a time of restructuring, change and achievement. New roles have been created and some of the existing roles have been amended to reflect changing job requirements. Effective working relationships in the education portfolio have resulted in strong results and good feedback from both faculty and students. However, retaining administrators continues to be challenging given some of the constraints imposed on the Department by union and University policies. The importance of an efficient and effective administrative support team is well recognized by Department leadership.

- In summary, the issues identified to be addressed:
 - Sustaining high levels of performance against a reality of regular turnover
 - Balancing autonomy and demonstrated initiative by staff with policy requirements
 - Supporting the FoM's drive for higher levels of diversity, equity, collaboration and sustainability as well as individual health and wellbeing.

Strategic Directions

Over the next five years, close attention will be paid to fostering a collaborative working environment that is respectful of the talents and contributions of individual administrators within the framework of an overall philosophy of efficiency and client service. Members of the administrative group function relatively autonomously in fulfilling their individual position descriptions, working closely with different members of faculty or parts of the FoM team. Requirements for adherence to University, FoM, and Department policies and a sufficient level of consistency across the Department will need to be established and monitored on an ongoing basis. Supporting the focus on client service and continuous improvement, mechanisms to capture feedback will be implemented. The role of the administrative lead will shift to being more of a conductor, ensuring that all administrative staff understand expectations and are supported in delivering it within an overall harmonious and explicit mandate. To that end, it is proposed to:

1. Develop a stronger culture of respectful autonomy among administrative staff
 - Clarify roles and responsibilities among administrative staff and with the leadership team, including formalizing the matrixed reporting relationship and identifying required information/communication flows
 - Strengthen and redefine collaboration and boost morale through clarifying goals and interdependencies, and encouraging initiative.
2. Modernize, update and streamline systems in order to support collaboration and sustainability
 - Continue refinement of job descriptions, including for the undergraduate and graduate administrative support person, to reflect changes taking place in the Faculty of Arts and Science (FAS) and School of Graduate Studies (SGS)
 - Update the Manager's job description, clarifying roles and responsibilities
 - Develop and implement a system for gathering and reporting feedback gathered from clients: faculty, students, and internal colleagues such as Human Resources, administrative staff in departments with joint faculty, etc.
3. Integrate the values of equity, diversity and inclusion into all Departmental initiatives
 - Engage students and trainees in decisions that affect their student lives
 - Include these considerations in all hiring decisions.

Appendix

List of Interviews Conducted

- Jerry Boss**
Chair, Department of Microbiology and Immunology,
Emory University
- Leah Cowen**
Chair, Department of Molecular Genetics
- Sarah Crome**
new faculty member
- Mike Gold**
Chair, Department of Microbiology and Immunology,
University of British Columbia
- Korosh Kianizad**
Research Program Officer
- Michael Krangel**
Chair, Department of Immunology,
Duke University School of Medicine
- Nana (Hyung-Ran) Lee**
Director, Graduate Professional Development Program
- Arthur Mortha**
new faculty member
- Linda Penn**
UHN Director, Office of Research Trainees
- Laszlo Radvanyi**
CEO, Ontario Institute for Cancer Research (OICR)
- Tania Watts**
Director, Toronto Human Immunology Network

Steering Committee⁴

- JC Zuniga-Pflucker**
Chair
- Jen Gommerman**
Associate Chair, Graduate Studies⁵
- Thierry Mallevaey**
Associate Chair, Undergraduate Studies⁵
- Dana Philpott**
Associate Chair, Research⁵
- Eleanor Fish**
Associate Chair, International
Collaborations and Initiatives⁵
- Michael Julius**
VP Research, Sunnybrook Health Sciences Centre⁵
- Pamela Ohashi**
Senior Scientist, Director,
Immune Therapy Program, UHN⁵
- Francis Arias**
Undergraduate Student (IMMSA co-president)
- Lisa Hung**
Graduate Student (IGSA co-president)
- Steve Scally**
Postdoctoral Fellow, SickKids
- Sherry Kuhn**
Administration Lead, DoI
- Jane Cooke-Lauder**
Bataleur Enterprises, consultant.

⁴ Steering Committee members were also interviewed individually
⁵ Department of Immunology, Executive Committee member

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