



**UNIVERSITY OF
CALGARY**

Cumming School of Medicine

Department of Physiology & Pharmacology

**Strategic Plan
2018-2023**

At the forefront of discovery

EXECUTIVE SUMMARY

The Department of Physiology and Pharmacology formed as an amalgamation of the Departments of Physiology & Biophysics and Pharmacology & Therapeutics in 2009. Dr. W. MacNaughton has been the Head of Department since January 2013. The five-year period from 2013-2017 was a period of net growth during which eight new faculty members were recruited, and four left due to retirements or other opportunities. This was a challenging period in terms of research funding, with success rates dropping at government agencies and charitable organizations. In particular, the changes and uncertainty associated with peer review at CIHR have been of concern to many Department members. Furthermore, the major restructuring of Alberta Innovates, including the loss of trainee awards, placed added burden on Department members. Nevertheless, the Department has remained very strong, with higher than national average success rates in recent CIHR and NSERC competitions, continued active roles in undergraduate and graduate education, and commitment to leadership roles at multiple levels.

To prepare us for continued success and growth in the next five years, this strategic plan presents our mission and vision, and addresses five themes, each with specific goals, rationale and suggested implementation strategies that align with the strategic plans of the Cumming School of Medicine (CSM) and the University of Calgary*. Strong partnership with Institutes and CSM and University programs will ensure that we accomplish our goals.

Mission: The mission of the Department of Physiology and Pharmacology is to support a community of researchers, educators, trainees and staff in a respectful environment dedicated to advancing research, education and service to the community in the Cumming School of Medicine.

Vision: At the forefront of discovery

Values: The mission of the Department is guided by core values of: respect, integrity, excellence, and collaboration.

Supporting Research

Goals

1. Support trainees to enhance their research success
2. Enhance awareness of research programs
3. Promote translational research opportunities

Education

Goals

1. Fill gaps in the curriculum in undergraduate and graduate science and undergraduate medical education as identified by the curriculum review

2. Identify and convey the teaching opportunities and learning resources available for members of the department
3. Provide better teaching mentorship to our postdoctoral fellows with constructive feedback and recognition
4. Establish stronger links between education and research

Supporting Career Development

Goals

1. Create a formalized process for tracking faculty eligible for tenure and promotion
2. Improve the transparency of the merit process at the Departmental level
3. Support professional development and help navigate barriers
4. Broaden the mentorship activities of the Department

Recruitment and Retention

Goals

1. Create a strategy and priorities for recruitment and replacement
2. Create a strategy for retention

Communication Strategy

Goals

1. Raise the profile of the department within academic circles (nationally and internationally)
2. Raise the profile of the Department within our local community

*University of Calgary Strategic Plan

<https://www.ucalgary.ca/eyeshigh>

Cumming School of Medicine Strategic Plan

<https://cumming.ucalgary.ca/files/med/stratplan1-9-15.pdf>

REVIEW OF DEPARTMENT ACTIVITIES: 2013-2018

Recruitment/retention

The Department has experienced some turnover and renewal in the past five years, with the departures of Drs. Roth, Kargacin, J Braun and Welsh, and the arrival of new members Drs. Borgland, Gallo, McCoy, Arrieta, Patel, Thompson, Dufour and Phillips. New hires included representation from six of the seven CSM Institutes - Libin Cardiovascular Institute, the Hotchkiss Brain Institute, the Alberta Children's Hospital Research Institute, the Snyder Institute for Chronic Diseases, the McCaig Institute for Bone and Joint Health, and the Arnie Charbonneau Cancer Institute. Of the eight new hires, four were female and four were male. Seven of the recruitments were at the assistant professor level; one was at the professor level.

Onboarding and Mentorship

The Department has developed an effective process for the onboarding and mentoring of new faculty. Chloe Fowler, the Department's administrative assistant has set up a very good onboarding process that new faculty have unanimously praised. Drs. Cole and Borgland have established a mentorship plan that Dr. Cole now administers. This system provides new faculty with advice on navigating University systems, preparing grants and identifying collaborators.

Career Development

During the past five years, the University has adopted a new process for promotion and tenure, with much of the preparation work falling to the applicant and less to the Department Head. However, the Department Head has worked closely with applicants to ensure that their application packages are as strong as possible. In the past five years, all applicants for promotion and tenure have been successful, with only one requiring two attempts. Several of our faculty (Cole, Kubes, Borgland, Poulin) have recently won Cumming School of Medicine Distinguished Achievement Awards. Several hold Canada Research Chairs and have taken on significant leadership positions.

Budget

The budget model for basic science departments was an issue over the past five years, but has now stabilized with the CSM now guaranteeing basic science departments \$30K per year of funding, should this be required. The amount of money that the Department receives from overheads on non-tricouncil and industry grants and contracts has increased recently, so the Department has been able to help some members with special requests, and has helped to fund workshops and symposia that involve Department trainees.

Department Executive Committee

A Department Executive Committee was established to discuss departmental issues and set the agenda for the annual retreat. Membership spans ranks, sex and institutes. Recently, terms of reference were drafted for the Executive Committee, defining the membership terms,

including standing positions. The position of Deputy Head was created, with Terms of Reference, as a standing position on the executive committee. Executive Committee meetings are held one week prior to Department business meetings.

Departmental Meetings

Department business meetings are held approximately every six weeks. Over the past two years, we have implemented a regular “internal education” agenda item where guest speakers present to the Department on a variety of issues related to education, CSM administration, and external opportunities. Standing items on the agenda for Department meetings include reports from the Education Committee, the University of Calgary Faculty Association (TUCFA) representative and the Head. Department meetings have been well attended, indicating that the membership finds them useful.

We have implemented an annual departmental retreat, held in mid-January usually on main campus. This has proved to be a popular and useful event to allow for planning, research updates and guest presentations.

In addition, we have initiated a series of regular meetings of basic science department heads (Physiology & Pharmacology, Biochemistry & Molecular Biology, Microbiology Immunology & Infectious Diseases, Medical Genetics) where issues of mutual interest are discussed, and action items taken to senior administration.

Communications

In the past two years, the Department has launched a monthly Newsletter that goes out to the broader membership (primary, cross and adjunct faculty, staff, students) as well as CSM and University leadership. The Newsletter includes a message from the Department Head, news of Departmental accomplishments, and other items of interest to the Department members. The Department has also set up a Twitter feed (@UCPhysPharm) and a Facebook page. The Twitter feed has gone through various phases of activity and it has been difficult to maintain the Facebook page due to time constraints and the difficulty in recruiting a volunteer from the Department to take this on.

Moving Forward

The next five years will continue to pose challenges in terms of research and trainee funding and research infrastructure challenges caused by budget constraints within the CSM. The Department, in partnership with Institutes and other CSM units, will need to take on a greater role in supporting faculty and trainees to ensure their ongoing success. The goals outlined below are designed to provide a means to fulfill this role into the future.

STRATEGIC PLANNING PROCESS

In 2017, the CSM implemented a Departmental external review to coincide with the end of Dr. MacNaughton's first term as Department Head. The external reviewer was Dr. Jane Rylett, Chair of Physiology and Pharmacology at Western University. A CSM committee, with departmental representation, led the review process. Dr. MacNaughton, with input from other Department members, produced a self-study document to aid the external reviewer's assessment of the Department. The report from the external reviewer was positive, noting the Department's strength in research and leadership within the CSM. The only major recommendation was the development of a strategic plan, which had been lacking up to that point.

The strategic planning process began in late 2017. Initial discussion was held at the level of the Department Executive Committee, which stated that the plan must **(1)** be practical and achievable, recognizing the unique roles and responsibilities of departments and institutes within the CSM, and **(2)** must align with CSM and University strategic plans. Several themes were identified and presented to the Department at a regular business meeting. These were brought forward for broader discussion and input during a breakout session at the Department's annual retreat in January 2018. The ideas from the retreat were further discussed and themes redefined by the Department Executive Committee over the first half of 2018. A draft document, along with a survey, was circulated to the primary members of the department in mid-2018 in order to gather additional input on the themes, goals and implementation. The collected feedback was incorporated into a revised plan that was presented to the Department in September of 2018.

MISSION

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VISION

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VALUES

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SUPPORTING RESEARCH

As a basic science department, research is the central focus for the majority of our faculty members and is key in the CSM's mandate to lead advancements in health care through precision medicine. The Department has a key role to play in working with Institutes, the CSM and other stakeholders to enhance research opportunities for its members.

Goal 1: Enhancing awareness of research programs

Rationale

Enhancing the awareness of Department members' research programs has several advantages, including facilitating collaborations and raising Department members' national and international profiles (with potential benefits at peer review committees and at promotion/tenure time).

Implementation

- Support symposia organized by members of the Department.
- Increase the awareness of other members' research programs internally, for example by highlighting researchers in the Department Newsletter and expanding the research presentations at the Annual Retreat.
- Have Department members add keywords to their profiles on the Department website.
- Nominating members for research prizes and awards

Goal 2: Promoting translational research opportunities

Rationale

With the increasing pressure to demonstrate the “translatability” of our basic research programs, many Department members are looking for ways to bring clinical applicability into their research. A mechanism or structure to do this is currently lacking and would benefit many Department members.

Implementation

- Engage clinician scientists from clinical departments and encourage cross appointment to our Department to facilitate collaborations.
- Develop a strategy to establish collaborations that will engage clinician scientists in bench research.
- Develop a strategy to help Department members and their trainees become involved in clinical research projects.

Goal 3: Supporting trainees

Rationale

It has been said that one way to enhance research is through supporting the trainees that do much of the work in our labs. While the bulk of the responsibility for their success lies with individual Department members who act as supervisors of students and fellows and their research projects, it is recognized that the Department can also play a supportive role.

Implementation

- Provision of small travel grants to trainees. This is important particularly for postdoctoral fellows who need to network (graduate students already have access to travel money through their graduate programs). This could be classified as a travel award, which the postdoc could then include on their CV.
- Reach out to Universities that have co-op programs to let them know of opportunities at for training of their students within our Department. Provide matching funding or a contribution towards the salary stipend for co-op students.
- Encourage members to actively participate in the trainee funding programs of their Institutes (ie. by participating in peer review of internal competitions) and recognize internal peer review explicitly on the ARO.

EDUCATION

The department of Physiology & Pharmacology is committed to providing quality education to students at all levels. Whether it be at the undergraduate science, undergraduate medical, graduate or postdoctoral levels, in the classroom or in the lab, our goal is to ensure our trainees get the knowledge and tools they need to succeed.

Goal 1: Address gaps in the curriculum in undergraduate science education and graduate science education

Rationale

The Department is particularly active in undergraduate science and graduate science education. In recent years there has been less involvement in undergraduate medical and postgraduate medical education, since these roles are filled by full time and adjunct clinical faculty within the CSM. Although several Department members continue to make important contributions, it is generally felt that basic physiology and pharmacology learning is lacking in the UME curriculum. A review of Department-specific educational activities has not been conducted for several years, and is long overdue.

Implementation

- Work closely with education program directors and participate in ongoing curriculum reviews to identify gaps in students' knowledge of physiology and pharmacology. For example, the current Departmental core courses (eg. MDSC404, MDSC501/503, MDSC620, MDSC621) will be part of these reviews and will be updated if required. New courses could be developed if deemed necessary.
- Professional and career development opportunities for students are lacking in some programs, and are recognized to be an important component of education. This is receiving increased attention in Graduate Science Education and the research institutes, with several programs rolling out to provide professional development training and to assess progress in acquiring these competencies. Faculty members will be expected to encourage their students to get involved in these various programs.
- Continue the development of a program in therapeutics, tailored to UME and PGME trainees, in collaboration with relevant units (for example, the Division of Clinical Pharmacology and Toxicology in the Department of Emergency Medicine). This could involve lectures, presentations at rounds, laboratory-based research opportunities, etc.

Goal 2: Convey the teaching opportunities and learning resources available for those in our Department

Rationale

Many Department members do not meet their obligations for classroom teaching as set out in their activity profiles. In some cases, this is a choice made by the Department member, but often it is because Department members are unaware of what teaching opportunities exist. In addition, Department members may wish or need to develop/improve their teaching skills, but don't know where to go to gain this knowledge. Finally, it is important that the Department demonstrates its commitment to education by recognizing and rewarding excellence in education.

Implementation

- The department head will ensure that Department members will teach when asked and will ensure availability to course coordinators and program directors to facilitate the filling of teaching requirements.
- The department head will actively monitor student evaluations of our teachers, and recommend as appropriate, attending education courses (ie. at the Taylor Institute for Teaching and Learning) for Department members to ensure high quality teaching.
- Encourage Department members to have their teaching evaluated by another member of the Department. This would be useful to identify areas for improvement. Evaluation letters would also be useful for promotion/tenure applications.
- Implement an award (or awards) recognizing teaching at the Departmental level.

Goal 3: Provide teaching opportunities to our postdoctoral fellows with constructive feedback and recognition

Rationale

While we do a sufficient job in preparing postdoctoral researchers for careers in science, there is a need to better communicate opportunities for them to gain expertise in teaching and supervision. This is important if we are to prepare them to be competitive for jobs in academia, industry, etc.

Implementation

- Encourage Department members to provide opportunities for postdocs to gain experience in the classroom. This would involve selected guest lectures, and not be meant to take teaching opportunities away from faculty members.
- Encourage Department members to engage in mentorship of their post-docs in teaching (and other aspects of professional development), and develop a method for recognizing Department members who fulfill this mentorship role with their postdocs.
- Encourage those postdocs who are interested in teaching, and whose supervisors are in agreement, to take courses and workshops offered by the Taylor Institute for Teaching and Learning.

Goal 4: Develop better links between education and research

Rationale

It is clear that there is a push to bring lab-based, discovery research closer to the clinic. It is well recognized that there is a translational gap that needs to be filled, and that many of our students are not being trained to do research in this environment. There should be opportunities for our trainees to learn about translational science and how they may fit into the future of translational research. In addition, since most institutes have an education mandate and educational activities, it will be important that the Department aligns and works with institutes in devising ways to link education and research more strongly.

Implementation

- Identify opportunities for our trainees to interact with researchers in various groups that engage in translational research (eg. within the various institutes).
- Develop links between Physiology & Pharmacology and clinical departments.
- Organize workshops or research roundtables that bring together our faculty members, trainees and clinician scientists. For example, the Department could work with research institutes to host presentations by clinician scientists who could address “hot topics” in translational research.

SUPPORTING CAREER DEVELOPMENT

As a Department, we want to fully support our faculty members as they advance through each stage of their career. From new recruits who are applying for their first grant to senior faculty who would like to explore their options as they near retirement, we aim to provide our members with the resources and information they need to make meaningful contributions at each career stage.

Goal 1: Create a formalized plan for tracking faculty eligible for tenure and promotion

Rationale

Tracking which Department members are eligible for tenure and promotion is currently handled by Kristy Potter in the Dean's office, but should be tracked at the departmental level with the idea that we mentor people as they approach career milestones. This is done informally by the Department Head, but should be formalized to ensure that Department members are aware of the areas in which they need to focus to be successful at the promotions committee.

Implementation

- Clarify requirements for promotion/tenure as defined in the CSM's "Criteria for Appointment, Promotion, Merit Increment and Tenure of Full-Time Faculty".
- Develop a concise checklist for the tenure and promotion process (timelines, documentation requirements). Tie the review of the checklist to the ARO meeting.
- Encourage Department members to attend workshops, such as those offered by TUCFA, that provide information on the tenure and promotion process.
- Work with institutes to ensure Department members take full advantage of the opportunities and structures available in the research institutes.

Goal 2: Improve the transparency of the merit process at the Departmental level

Rationale

The merit process, as defined in the collective agreement, is designed to assess performance in the context of each faculty member's activity profile (percent of time devoted to research, education and service) and to reward excellence. Merit scores are tied to salary increments that become a permanent part of a faculty member's base salary. Each department receives a set amount of merit each cycle, which is divided up by the Department Head, based on each Department member's biannual review. While there is a CSM template for assignment of merit, concerns have been raised about the transparency of the process.

Implementation

- Establish and disseminate structured benchmarks for assigning merit, based on the CSM framework for assigning merit.

Goal 3: Support professional development and help navigate barriers

Rationale

Junior faculty, especially women, face unique challenges in the research environment. To meet international benchmarks, achieving international recognition is difficult particularly for faculty with small children, as they have the added difficulty of finding childcare when they want to travel to conferences. In addition, many women in research are asked to participate in committees to meet committee requirements for gender diversity. The Department recognizes that providing assistance to junior faculty, especially women, would enhance their success. It is also recognized that there are process and procedural barriers that affect all members of the Department. Systems such as IRISS, CHREB, PeopleSoft, etc are not user friendly or intuitive, and constitute a barrier to research for many individuals.

Implementation

- Establish a mechanism to subsidize or assist in covering the cost of childcare for junior faculty members attending conferences.
- Proactively seek out and support nominations for internal and external awards.
- Develop a Department strategy to ensure balance of portfolios commensurate with the Department's composition, particularly in terms of gender equity (women can get overburdened with service work because many committees have gender requirement).
- Identify Department mentors or resource people who could help Department members experiencing difficulties with specific platforms (eg. animal care/IRISS).

Goal 4: Broaden the mentorship activities of the Department

Rationale

The Department has focused on mentorship of junior faculty as they begin to develop their academic careers. However, as Department members' careers progress, priorities and activities may take directions that raise new challenges. It is important that the Department recognize these challenges and provide mentorship and support to help meet them.

Implementation

- Improve mentorship at all levels, helping midcareer members, promoting sabbaticals, and helping those transitioning into the later stages of their career. The strategy would be to encourage people to develop plans and to identify opportunities, particularly for more senior faculty who have moved on from writing grants and wish to contribute to the academy in other ways.
- Department members will be encouraged to submit an updated career development plan at each annual or semi-annual assessment meeting.

- Ensure that every pre-tenure member of the Department has an active mentorship committee.

RECRUITMENT AND RETENTION

Institutes remain the primary drivers for recruitment at the University of Calgary. However, it is important for the department to implement a strategy should opportunities for recruitment arise.

Goal 1: Create a strategy for recruitment and replacement

Rationale

While we have been successful in recruiting over the past 5 years, we need a strategy to replace Department members who retire or leave the university. This will be challenging as the CSM is still dealing with the fallout from the cessation of the AHFMR salary support program several years ago. Nevertheless, it is likely that recruitment opportunities will arise and the Department needs to be positioned to respond to these and to work closely with the Institutes to put together attractive recruitment packages.

Implementation

- Maintain and strengthen relationships with Institutes so the Department of Physiology and Pharmacology is the first place Institute Directors turn to for basic science recruitment because we are organized, strong, diverse, and supportive of new recruits.
- Identify priority areas for recruitment to maintain the diversity of the Department in terms of research activity, gender, academic rank, etc.

Goal 2: Create a strategy for retention of faculty

Rationale

The more successful our Department members are, the more likely they are of being courted by other institutions. In addition, with each successive bargaining negotiation between TUCFA and the Senior Administration Bargaining Team failing to result in an across-the-board salary increase, CSM basic scientists are falling behind in terms of salary compared to other institutions. Thus, we must deal with the possibility of losing our star researchers.

Implementation

- Implement a policy whereby some funds from career awards are used for salary top-ups.
- Identify leadership positions (that come with honoraria) as an incentive for people to stay at U of C.
- Work with Institutes to develop retention mechanisms.

COMMUNICATION STRATEGY

Aligning with the University of Calgary's Eyes High Strategy, the Department of Physiology & Pharmacology hopes to increase the recognition and reputation of both the department and its members through the implementation of a multifaceted, but easily managed and cost effective, communication strategy.

Goal 1: Raising the profile of the department within academic circles (nationally and internationally)

Rationale

This goal overlaps somewhat with Goal 2 of the "Supporting Research" strategy. Improved communication of the Department's research activity raises the profile of Department members which benefits them and their trainees. It is also important to consider that while here in the CSM, Institutes are considered the homes of research, such is not the case at many universities where research is still structured along departmental lines. It is important that the research strength of our Department is recognized nationally as Department members' affiliation may be recognized differently externally than it is internally.

Implementation

- Take an active role in identifying awards and nominating our Department members for them.
- Encourage and support financially members of the Department to submit to symposia calls at national and international meetings. Generate a database/list of conferences that accept symposia submissions with rough timelines. Actively recruit members of the Department to submit proposals on a yearly cycle.
- Take an active role in recruiting trainees and faculty within the Department to attend top meetings in their respective field(s) through a conference/meeting communications strategy and the provision of selected travel awards.
- Produce a Departmental slide template with social media and website links that Department members and trainees could use in presentations.
- Discuss the idea of a Departmental logo with the CSM communications office.

Goal 2: Raising the profile of the Department within our local community

Rationale

Given the expertise that resides within the Department, we could become the "go to" researchers for expert opinion on relevant topics. For example, given that two of the biggest issues in Canada are opioid addiction/overdose and cannabis, we could work with the media office at the U of C/CSM to participate in local news stories and lay education opportunities.

The profile of the department could also be raised by increasing our online presence, through an expanded website and a better presence on social media.

Implementation

- Review the department website and identify opportunities for improvements.
- Work with CSM and possibly U of C media offices to look for opportunities for connections with local media.
- Investigate the possibility of engaging the indigenous community, particularly indigenous youth.
- Improve the Department's social media presence as a way to attract trainees, to celebrate our successes, and to become a place for unique syntheses of the literature and where challenges are tackled from many and diverse perspectives.

Goal 3: Raising the profile of the Department through effective use of social media.

Rationale

The newer generations of faculty use social media as an effective tool to share their science, network with colleagues, recruit trainees, share relevant papers, etc. Thus, part of the Department's strategy to raise its profile must involve social media presence. For this, we will focus on Twitter as this is the best platform to implement this objective.

Implementation

- Recruit 2-3 trainees within the department that are savvy and frequent Twitter and Facebook users. Financial incentives (honoraria) may be offered during recruitment, although this may not be necessary considering that several students are interested in developing these initiatives as part of their career advancement.
- Build on the Department's existing Twitter and Facebook accounts and engage strategies to gain followers.
- Develop appropriate rules for the use of the account, limiting it to science dissemination, sharing of departmental news, achievements, and important events (social and professional).

MONITORING PROGRESS

It will be important to regularly monitor the progress of how the plan implementation is proceeding. Most importantly, it will be critical that Department members feel that progress is being made and that the implementation of strategies is benefiting members of the Department. We will do this regularly at Department business meetings and at our January annual retreat.

Progress on implementation of the strategic plan will form the basis of an annual report that will be distributed to all Department members, CSM leadership and other stakeholders.