



FoMD Postdoctoral Fellow Supervisor/Mentorship Initiatives

Rationale

Postdoctoral fellows (PDFs) are individuals who have recently obtained their terminal degree (e.g., PhD, MD, DVM) and are pursuing for a fixed period additional mentored research and advanced training in a chosen discipline linked to a university or an affiliated institution, to industry or government. This training is conducted under the supervision of one or more investigators who are qualified to fulfill the responsibilities of a mentor.

At the University of Alberta, a group of between 100 and 150 PDFs spread across the Faculty of Medicine and Dentistry (FoMD) promote discovery in research and innovation and are behind a large portion of the research outputs and achievements of the faculty. In addition to the primary responsibility of conducting research, PDFs typically also undertake leadership, service, and teaching/supervising activities to build the myriad soft skills essential for professional development and career advancement. Thus, they are an indispensable group of individuals heralding from within and outside Canadian borders who strengthen and enrich our academic research community through contributions to leadership, novel scientific inquiry, community partnerships, collaboration, knowledge translation and new approaches to the teaching and mentorship of our graduate and undergraduate research trainees.

Despite the essential roles that PDFs play in achieving the academic and research missions of our institutions, PDFs are often referred to as a “shadow workforce” (Harris, 2014; CAPS Nat’l report). This reflects a general lack of standardized processes and procedures at either the institutional level to ensure consistent standards with respect to employment issues such as compensation, benefits, and status or at the unit level to ensure consistent, high-quality training experiences for all PDFs. Effective mentorship is critical to the success of our PDFs. Indeed, one of the most important indicators of PDF success is a positive PDF mentor-mentee relationship. This is increasingly recognized by all major funding agencies in Canada who now include in their PDF fellowship applications not only sections for the research proposal and the technical aspects of training environment but also a section to describe the professional development and mentorship plan for the PDF candidate. Policy documents that declare institutional responsibilities to PDF employees and commitments to the delivery of quality training experiences are needed.

An informal polling of our PDFs in 2021 indicated that there are many outstanding PDF mentors in FoMD, but it also revealed that the PDF experience remains very much supervisor/mentor dependent. The UofA is not alone. The most recent Canadian National Postdoctoral Survey Report (2016; http://www.caps-acsp.ca/wp-content/uploads/2016/11/2016_CAPS-ACSP-National_Postdoc_Survey_Report.pdf); the 2019 report is pending) indicates that the challenges faced at the UofA are common across campuses in Canada, the USA, Europe and Australia.

The most significant issues identified at Canadian institutions include urgent needs to: provide better support for international PDFs, improve the everyday well-being of our PDFs, such as compensation, benefits, and employment status; and develop new strategies to address satisfaction with postdoctoral training programs. To stem the offshore outflow of highly trained PDFs,



strategies are needed to improve the transition of our PDFs into a broad range of careers options within Canada. It is also clear that our PDF demographics are changing. The trend toward longer periods of postdoctoral training has shifted the age distribution so that larger numbers of PDFs are in their mid to late thirties, and fewer in their late twenties and early thirties. Older PDFs have different needs – they experience significant workplace stress due to life/work balance issues, few family-oriented benefits, and low salaries, in addition to stress related to future job insecurity and a highly competitive nature of potential careers/jobs after PDF. Measures to address compensation and workplace mental health, as well as promotion of networking and exposure to potential career/job opportunities, are needed in the short and long term to ensure the well-being of Canadian PDF.

The FoMD recognizes and respects the essential role of PDFs in the Faculty vision and is committed to providing consistent, positive and productive training experiences in a well-defined, safe and inclusive work environment. To facilitate this, an FoMD PDF Advisory Committee, chaired by Dr. Greg Funk (Assoc Dean Research, Grad Studies from 2020-2022) was formed in April 2021. This committee comprises 4 PDFs from FoMD and works closely with the Academic Director of the PDF Office to support the growth and excellence of PDF experiences in the FoMD and the University as whole.

The goal of the FoMD PDF Advisory Committee is to develop FoMD best practice guidelines that embody shared principles in our ongoing effort to improve and provide consistent, high-quality training experiences for our PDFs. To this end, the committee is developing a series of proposals, described below with underlying rationale, that include: 1) a statement of institutional commitment; 2) initial discussion guidelines to align expectations and foster effective mentor-mentee relationships; 3) PDF Mentorship Committee; 4) development of an individual career development plan (IDP); 5) define policy regarding the ability of PDFs to be named as PI or coPI on grant applications; and 6) a standardized exit interview and long-term tracking process. The FoMD PDF Advisory Committee began working with Jason Acker, Director of the PDF Office for the UofA, and Kathleen Dancer (FGSR) to prepare standardized onboarding and internal notification processes. However, progress on this has stalled with movement of Dr. Jason Acker out of the Director position as well as changes at FGSR in 2022. This document deals only with initiatives 1-4.

In preparing this Initiatives document the FoMD PDF Advisory Committee has consulted reports from the AAMC, CAPS, AFMC and incorporated many of their recommendations, with revisions to account for inter-institutional differences in policy/process regarding governance, data ownership, IP etc.

Our initial goal is to develop these guidelines for the FoMD. However, we recognize that the PDF Office in FGSR has oversight over all postdoctoral affairs across campus so we are working closely with them to ensure as unified an approach as possible. Once we received feedback and obtain endorsement from the FoMD, the revised proposal will be submitted to the Academic Director of the PDFs Office, FGSR and additional stakeholders for feedback and further guidance as we move forward in our efforts to have these guidelines endorsed and publicized by FoMD.



1. Institutional/FoMD Commitment Statement to be published online.

PDFs come to FoMD at the University of Alberta to obtain further training in their chosen discipline under the general supervision of one or more faculty members. The FoMD and University Postdoctoral Fellows Office recognize that PDFs are key drivers of our research and educational enterprises, contributing significantly to the discovery and creation of new knowledge, and to guiding the research of undergraduate and graduate students. The FoMD is committed to supporting the research and broader professional training of our PDFs and their efforts to develop to the fullest of their abilities and interests. We are also committed to fostering a diverse, equitable, and inclusive research training environment where everyone can thrive by embracing individuals from varied backgrounds, cultures, races, identities, life experiences, perspectives, beliefs, and values.

Successful PDF training programs require commitment from the PDF, mentor, and institution. The following sections document the commitment of FoMD to providing our PDFs with world-class training experiences. They also document general principles and the commitments we expect of our faculty mentors and PDFs to foster the development of effective mentor-mentee relationships, the collaborative delivery of quality training experiences and the future success of our PDFs.

FoMD supports the following Tenets of Postdoctoral training (*adapted with permission from the AAMC, Compact Between Postdoctoral Appointees and Their Mentors: <https://store.aamc.org/compact-between-postdoctoral-appointees-and-their-mentors-pdf.html>*). (AAMC, American Association of Medical Colleges).

Institutional Commitment

Institutions that train PDFs must be committed to maintaining the highest standards for scientific and professional training and for a program that, when completed, has prepared the trainee with the skills necessary to function independently as a scientific professional. Institutional oversight must be provided for terms of appointment, salary, benefits, grievance procedures, and other matters relevant to the support of PDFs. A responsible institutional official must be designated to provide this oversight, and a suitable office should be available for the administrative support of postdoctoral affairs, including maintaining and making available career outcomes data. The institution should actively engage in creating and sustaining a diverse and inclusive environment.

Quality Postdoctoral Training

Individuals should be trained to formulate meaningful hypotheses, design and conduct interpretable experiments, adhere to good laboratory practices, analyze results critically, understand the broad significance of their research findings, and uphold the highest ethical standards in research. The development of additional skills—including oral and written communication, grantsmanship, peer review, teaching, mentoring, laboratory management, networking, research collaboration, and other leadership skills—is considered integral to this training.

Importance of Mentoring in Postdoctoral Training

Effective mentoring is critical for postdoctoral training. In addition to the research mentor, PDFs are encouraged to seek advice and input from multiple individuals who can provide feedback about personal and professional development. It is expected that the primary research mentor will dedicate time to the trainee's career development. A good mentor-mentee relationship is reciprocal and characterized by mutual respect and an understanding of each individual's expectations. A mentor should be approachable, available, and willing to share knowledge; listen and communicate effectively; provide encouragement and constructive criticism; and offer expertise and guidance.



Similarly, the mentee should be approachable, available, and willing to offer ideas and solutions; listen and communicate effectively; be open to constructive criticism; and seek and respond to expert guidance.

Foster Breadth and Flexibility in Career Choices

PDFs must have opportunities to learn about and develop a skill set that can be used in a wide range of professional careers. The responsibility for providing these opportunities should be shared by the mentor and the institution. It is important to note that postdoctoral positions are intended for those seeking advanced research training and should not be viewed by graduate students, PDFs, or their mentors as the default step for everyone after the completion of doctoral training.



2. Establishing effective mentor-mentee relationships: commitment and aligning expectations.

Commitment Statements.

Successful PDF training programs require commitment from the PDF, mentor and institution. The FoMD has therefore declared its commitment to PDFs and outlined the general principles and commitments expected of its faculty mentors and PDFs in two separate documents, *PDF Supervisor Commitments* and *PDF Commitments*. These documents should be read by both parties prior to (or during) their initial meeting. They are designed to guide initial discussions to help ensure that mentor and mentee understand each other's responsibilities and expectations and that there is alignment.

Key discussion points include, but are not limited to:

- Research plan
- Role of the PDF; level of independence/autonomy that is expected and also granted (i.e., does the PDF take the lead in driving experimental direction and consult only when needed or consult at every step?)
- Individual Career Development Plan (IDP) and career mentoring
- Research/Mentorship committee
- Professional Development opportunities
- Expectations regarding work schedule, flexible/rigid reporting requirements, holidays.
- Establish norms for communication: frequency and format of meetings, mechanisms for providing constructive feedback
- Opportunities/expectations for supervision/teaching of other trainees
- Networking – attendance at meetings
- Ethical standards in research and scholarship
- Formal Performance reviews
- Lab specific authorship policies
- Policies re the ability to pursue independent collaborative opportunities and associated authorship policies
- Data ownership and IP

Mentor and mentee should each sign both the commitment documents (see below) when the discussion concludes.



Commitments of Postdoctoral Fellows

- **I acknowledge that I have the primary responsibility for the development of my own career.** I recognize that I need to explore career opportunities and follow a path that matches my individual skills, values, and interests. I understand that there are tools such as the individual development plan that I should use to help me define my career goals and develop my training plan.
- **I will develop with my mentor a mutually agreed upon research plan that includes well-defined goals and timelines.** Ideally, this plan should be developed early in the appointment period and be reviewed at least annually.
- **I will seek regular feedback on my performance and career planning and ask for a formal evaluation at least annually.** I will use this feedback to seek opportunities for development and to build on my strengths.
- **I will perform my research activities conscientiously, maintain complete and accurate research records, and catalog and maintain all tangible research materials that result from the research project.**
- **I will respect all ethical standards—including compliance with all institutional, state, and federal regulations—as they relate to responsible conduct in research, possible conflicts of interest, privacy and human subjects research, animal care and use, laboratory safety, authorship, peer-review guidelines, and data ownership, reporting, and sharing.** I recognize that this commitment includes asking for guidance when presented with ethical or compliance uncertainties and reporting on breaches of ethical or compliance standards by me and/or others.
- **I will show respect for and will work collegially with mentors, faculty, trainees, staff, and other individuals with whom I interact. I will contribute to an environment that is safe, equitable, and free of harassment.** I will be an active, contributing member to all team efforts and collaborations and will respect individual contributions. I am committed to communicating the value of research to advance the public good.
- **I will endeavor to assume progressive responsibility and management of my research project(s) as it matures.** I recognize that assuming responsibility for the conduct of research projects is critical to my career path.
- **I will have open and timely discussions with my mentor concerning the dissemination of research findings and the distribution of research materials to third parties. I will also work with my mentor to disseminate research results in a timely manner.**
- **With respect to data ownership, I acknowledge that original notebooks, digital files, and tangible research materials belong to the institution and will remain in the lab when I finish my appointment, in accordance with institutional policy.** I will discuss data ownership with my mentor and reach mutual agreements on future access to tangible research materials and ideas.
- **I recognize that I have embarked on a career requiring lifelong learning.** To meet this obligation, I must stay abreast of the latest developments in science, especially in my specialized field. I will do this by engaging in activities such as reading the literature, participating regularly at relevant seminar series, attending scientific meetings, and interacting with leaders in my field and collaborators. In addition, I will apply for appropriate fellowships and awards that support my transition to independence.
- **I will actively seek opportunities outside the laboratory (e.g., professional development seminars and workshops on oral communication, scientific writing, collaborative research, and teaching) to develop the full set of professional skills necessary for success in my chosen career.**
- **I recognize that the relationship with my mentor continues after my formal training period, and I will commit to being a supportive colleague throughout my professional life.**

Signatures

Postdoctoral Fellow	Print	Date
Supervisor	Print	Date



Commitments of Mentors

- **I understand that establishing norms for communication and aligning my expectations with those of the Postdoctoral Fellow (PDF) as early as possible in the relationship is critical for developing a productive working relationship.** I therefore commit to discussing at the beginning of the fellowship issues that are the most common sources of misunderstanding/conflict in mentor–PDF relationships, including: expectations re work schedules; modes and frequency of communications/meetings; mechanisms for assigning priority to different tasks; reporting requirements (frequency); funding supports; authorship; data collection and stewardship; IP.
- **I acknowledge that the postdoctoral period is devoted to advanced training intended for the development of skills needed to promote the career of the PDF.** I will ensure that the PDF has sufficient opportunities to acquire the skills necessary to become an expert in an area of research investigation. I will work with the PDF as the fellow creates a documented individual career development plan (IDP). I will respect the appointee’s individual career goals and use the IDP as the basis for discussions with the mentee and Mentorship committee to provide support, develop strategies and define opportunities that will maximize potential for success.
- **I will assist with the formation of a PDF Mentorship Committee.**
- **I will work with the PDF to develop a mutually agreed upon research plan with well-defined expectations and goals early in the postdoctoral training period.** I will review the plan’s progress regularly.
- **I will provide regular feedback on performance and career planning and provide a formal evaluation at least annually.** I will be accessible to give advice and feedback on career planning and the PDF’s individual development plan to help define career goals and identify training milestones.
- **I will strive to maintain a relationship with the PDF that is based on trust and mutual respect.** I will provide an environment that is intellectually stimulating, emotionally supportive, safe, equitable, and free of harassment. I acknowledge that open communication is essential.
- **I will demonstrate respect for all PDFs as individuals without regard to gender, race, national origin, religion, disability, or sexual orientation, and I will cultivate a culture of tolerance among the entire laboratory.**
- **I will promote all ethical standards for conducting research—including compliance with all institutional, state, and federal regulations—as they relate to responsible conduct in research, privacy and human subjects research, animal care and use, laboratory safety, authorship, peer-review guidelines, and data reporting, ownership, and sharing.** I will clearly define expectations for the responsible conduct of research in my lab and make myself available to discuss ethical, safety, and any related concerns as they arise.
- **I will provide the PDF with guidance and mentoring and will seek the assistance of other faculty and departmental/institutional resources when necessary. I will also encourage the PDF to seek input from multiple mentors.** I recognize that I must serve as a role model for the PDF and provide access to formal opportunities/programs in complementary areas necessary for a successful career.
- **I will provide a supportive training environment to facilitate the PDF’s personal and professional growth.** I will encourage the PDF to progressively increase levels of responsibility and independence to ensure a successful transition to an independent career.
- **I will ensure that the research performed by the PDF is submitted for publication in a timely manner and that appropriate credit is given to the PDF for work done. I will provide guidance regarding selection of appropriate, reputable journals and will acknowledge the PDF’s contribution to the development of any intellectual property.**
- **I will clearly define future access to tangible research materials according to institutional policy and will discuss this with the PDF and reach mutual agreements that support the PDF’s transition to independence.**
- **To foster career development, I will encourage and assist the PDF to apply for appropriate fellowships and awards that support the transition to independence. I will encourage and facilitate the interaction of the PDF with fellow scientists both intra- and extramurally, including the PDF’s attendance at professional meetings to network and present research findings.**
- **I recognize that there are multiple career options available for PDFs and will provide assistance in exploring appropriate options.** I recognize that not all PDFs will become academic faculty. To prepare PDFs for a variety of career paths, I will direct them to the resources that will allow for exploration of various careers, and I will be available to discuss these options.



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- I will commit to being a supportive colleague to PDFs as they transition to the next stage of their careers and, to the extent possible, throughout their professional lives.** I recognize that the role of a mentor continues after the formal training period.

Signatures

Supervisor

Print

Date

Postdoctoral Fellow

Print

Date



3. PDF mentorship committee

Mentorship is much more than supervision. Mentor-mentee relationships are long-lasting, often life-long, where mentorship is about providing the mentee with what is needed in terms of career support and career development, psychological support, encouragement and direction and keeping the mentee focused on the bigger picture while assisting with acquisition of the many soft skills essential for career success.

Effective mentorship is critical for success at all career stages and it is a key component of the organizational culture of any successful research institution. It is now standard that Universities have mentorship programs for junior faculty to facilitate their transition to independence and early success. Effective mentorship is especially important for our PDFs. Limitations of the standard model where the research supervisor serves as supervisor and sole mentor include potential conflicts of interest and ensuring that the guidance provided best serves the mentee's long-term interests as these do not always match the immediate research needs of the primary mentor. It is also rare that the expertise of the primary mentor meets all the needs of the mentee; e.g., a researcher in an academic institution mentoring a PDF with aspirations of transitioning to industry. Hence a mentorship committee with diverse expertise is encouraged. Finally, postdoctoral fellowships are brief. At the University of Alberta, the average duration of a PDF is 12 months; the average duration in FoMD is longer, but is still under three years which is a short period of time in which much must be accomplished. To enhance the mentoring experience of trainees, all Tricouncil agencies and many research foundations now require carefully constructed professional development and mentorship plans to be included with their applications. Thus, we propose that a PDF Mentorship Committee is formed for each PDF in FoMD. The objective of the PDF Mentorship Committee is to strengthen the mentoring environment and support the professional development of the PDF; it is not designed to replace the key role of the primary mentor. The needs of each PDF will vary depending on their experience and career goals. However, the general terms of reference for the PDF Mentorship Committee are to assist with developing an individual career professional development plan, that outlines a realistic timeline to achieve short- and long-term research goals, while incorporating professional development experiences to maximize the competitiveness of the PDF in their field of choice.

Composition

The PDF Mentorship Committee should comprise between 3 and 4 people depending on the needs of the PDF and how their career goals align with the expertise of the primary supervisor. Potential committee members should be identified in the initial meeting(s) between the primary supervisor and PDF - keep in mind the relatively short nature of the PDF appointment. A minimum of two members of the PDF Mentorship Committee should be from the University of Alberta. Remaining committee members can be from other academic institutions, industry or government etc; the purpose is to engage a group of people with the relevant expertise that will benefit the future career goals of the PDF. Of course, the PDF will typically be new to the UofA so the primary supervisor will have the biggest influence on the committee composition. The committee could include any combination of the following:



- 1- The primary supervisor/mentor will play the biggest role in mentoring the PDF as the expertise and experience of the primary mentor typically aligns with the interests of the PDF. This Committee is not to replace the vital role of the primary mentor but to enrich the mentoring environment.
- 2- Career Mentor. It is often useful to have a senior faculty member who works in a field closely related to that of the PDF to provide another perspective of the field and additional insight regarding where the field is heading as well as expand the network of the PDF and advise on potential opportunities and strategies re professional development opportunities.
- 3- Early career mentor*. Recently appointed faculty members will be well-positioned to address current issues relevant to the current academic job market.
- 4- Career mentor with experience beyond academia. For the many PDFs who do not aspire to become principal investigators in a traditional academic setting, there is great value in adding to this committee a mentor with experience and networks that match the interests/aspirations of the PDF, whether they lie in industry, government, policy, teaching, communication, knowledge translation etc.

**While there is significant benefit from having an ECR on the committee, FoMD has relatively few ECRs to serve in this capacity. To ensure that ECRs are not overburdened, it is important to clarify that the above are only recommendations. If an ECR is not available to serve on the committee, an alternative would be to arrange an ad hoc meeting with an ECR to discuss the current job market, the interview processes, etc.*

Timeline

Postdoctoral fellowships last a very brief 26 months on average in FoMD. Thus, as with all aspects of PDF training, there is urgency in getting this committee established. We recommend that the committee be formed in the first 4 months of the fellowship, as soon as possible after the primary mentor and PDF have developed a draft IDP.

Frequency of meetings

Two to three meetings per year are recommended depending on the specific needs of the PDF and the availability of committee. Once the committee is formed, it should be the responsibility of the PDF to organize committee meetings as needed.

Reporting Requirements

There are no reporting requirements. The purpose of this committee is to support the PDF. It is the responsibility of the PDF to document committee recommendations, continually update/revise the career development plan in accordance with committee discussions, update the committee about progress and schedule meetings. The FoMD PDF Advisory committee will be working to have the time faculty commits to PDF mentorship activities recognized by FEC so at this stage we recommend that faculty members record PDF Mentorship Committee activities to facilitate completion of their Annual Report.



Potential Benefits

- Enhanced PDF training experience
- Increased success in Postdoctoral Fellowship competitions
- Increased success of our PDFs in achieving research and career milestones/goals
- Enhance the profile of FoMD as an attractive place to undertake postdoctoral training
- Enhanced networking opportunities for faculty members and PDFs

4. Professional Development plan

The PDF should first generate an Individual Development Plan (IDP) and then meet with the primary supervisor for input re strategies to facilitate attainment of specified goals. The PDF and supervisor should meet with the Mentorship Committee for additional input. There are multiple online resources for developing an IDP, including a tool available through FGSR. Any IDP tool is acceptable, including the tool developed by Science Careers (<http://myidp.sciencecareers.org/>), which is very thorough and free to access.

See also (Tsai JW, Vanderford NL, Muind F. Optimizing the utility of the individual development plan for trainees in the biosciences *Nature Biotechnology* volume 36, pages552–553 (2018))

REFERENCES and RESOURCES

https://postdoc.fas.harvard.edu/?utm_source=os&utm_campaign=redirect_analysis

<https://postdoc.fas.harvard.edu/career-planning>

<https://store.aamc.org/compact-between-postdoctoral-appointees-and-their-mentors-pdf.html>