

Guidelines for the NIH Protein Biotechnology Training Program

PROGRAM FOCUS

The primary emphasis of the Program is to provide interdisciplinary graduate training in biotechnology with an emphasis on the fundamentals and complexities of protein chemistry studies. Although not necessarily restricted to these categories, examples of training areas supported by the grant include the production, purification and characterization of proteins, protein engineering, investigations of the structural/functional properties of proteins in relation to biological and technological problems and the study of protein and/or peptide expression, interactions, modifications and function on a single gene or genomic scale.

PROGRAM GUIDELINES AND ADMINISTRATIVE STRUCTURE

1) The Principal Investigator (PI) of the NIH Training Grant normally serves as the Director of the Program. Nevertheless, the Director serves at the discretion of, and is elected by, a majority vote of the Active Training Faculty. The Director can be removed from office, at any time, by a majority vote of the Active Training Faculty following a recall petition to the Executive Committee by twenty percent of the Active Trainers. The Program's Executive Committee (minus its Director) is the sole body responsible for arranging and supervising the election of a new Director. Any member of the Active Training Faculty, regardless of departmental affiliation, is eligible for election as the Director. Local actions regarding the choice and/or replacement of the Program Director must take into account the contractual responsibilities for managing and administering the Grant. The normal elected term of the Director is five years but, at the discretion of the Executive Committee, this time period can be extended without a new election. In the event of elections, the term of a new Director shall be arranged so that it ends at least two years prior to the date of the next competitive grant renewal, if possible. In the event of recall, resignation or death of the Director, the Associate Program Director shall serve as interim Program Director until new elections are held. The Director has ultimate responsibility and authority for ensuring the overall quality and effectiveness of the Program. The Director also determines whether Trainees are awarded the Certificate of Training in Protein Biotechnology upon completing their doctoral degrees.

2) The Administrative Structure of the Program shall consist of two standing committees: The Executive Committee and the Trainee Selection Committee.

- a) The Executive Committee (EC) shall consist of the Director, who serves as its chair, an Associate Director and three additional Active Trainers with different department affiliations. The Director shall appoint the Associate Director and the other members of the Executive Committee from among the Active Faculty with the aim of balancing representation of the various major academic areas within the Program. Each EC member will normally be appointed for a term of five years before consideration for re-

appointment. The Executive Committee oversees the activities of the training program. It evaluates the overall quality and effectiveness of the program, determines program policies and requirements, monitors the progress of Trainees, appoints/removes both Training Faculty and Trainees and has the authority to hold elections for a new Director. The EC is required to monitor the progress of predoctoral Trainees, including their industrial internships, from the time they are initially supported by the training grant until they graduate. The EC reviews and evaluates the annual reports that all Trainers and Trainees (including Trainees previously supported by program funds) are required to submit outlining Trainee progress toward meeting degree requirements, including a summary of research accomplishments and plans. The EC also reviews and evaluates Trainee internship reports and tracks the activities of past Trainees after they have graduated and left the Program.

- b) The Selection Committee reviews files of eligible candidates annually and makes recommendations for support to the Executive Committee. Guidelines for selection of Trainees are listed below. It is the responsibility of the committee to introduce new incoming Trainees to the requirements and expectations of the Program, to make specific recommendations about their lab rotations and assist them in their proposed plan of coursework. Members of the Selection Committee will be appointed by the Director from among the Active Training Faculty and will normally serve two year terms. The committee will elect its own Chairperson who is responsible for coordinating its activities.

The criteria for selection of Trainees include: i) overall grade point average (GPA); ii) grades in academic courses related to the focus of the Program, in particular graduate courses at Washington State University (if applicable); iii) GRE scores; iv) letters of recommendation from faculty members or other professionals who know the student well; v) evaluation of a student during their recruiting visit; and vi) the degree of interest and enthusiasm expressed by a student to be a part of the Program. The Selection Committee reviews the applications and selects Trainees on the basis of demonstrated excellence in the classroom, promise in the laboratory, overall compatibility and interest in the Program. Every effort should be made to ensure that a reasonable balance among research areas, departments, and laboratories is achieved in this selection process without sacrificing quality.

PROGRAM FACULTY REQUIREMENTS

- 1) The research expertise of all Training Faculty should clearly fall within the general 'focus' of the Program as broadly outlined above.
- 2) There are three categories of Training Faculty: (i) Active Trainers; (ii) Provisional Trainers; and (iii) Emeritus Faculty. The guidelines, requirements and expectations of these different categories of Trainers are outlined below.

3) Active Training Faculty:

- a) Must be a member of the WSU Graduate Faculty.
- b) Should have a strong record of extramural grant funding and be willing to mentor and financially support Trainees they accept into their laboratories. Following the period of NIH (or other) financial of Trainees provided by the Program, Trainers are expected to support a Trainee on continuous 12-month R.A. appointments during the remainder of their graduate studies. Exceptions are made for teaching assistantship responsibilities required by specific degree programs and for the period of time spent on an internship in a biotechnology company. Exceptions are also made for Training Faculty who have previously been well funded but are currently “between grants” and find alternative sources of funds to support the Trainees in their laboratory. In the latter case, however, the faculty member should demonstrate continuing effort to obtain outside grant funding for the support of the existing Trainees and cannot accept any new Trainees until such funding is obtained.
- c) Are expected to assist Trainees with making arrangements for their required biotechnology internships. The Training Program’s commitment to the Trainees is that their WSU appointment will persist during the internship. The Training Program requires that the internship firm provide financial support to the Trainee doing the internship (unless otherwise approved by the Director), in the form of salary or another mechanism, that covers, at minimum, all living expenses incurred by the Trainee during the internship. In addition, during the internship, the Trainee continues to receive internship financial support from the Program (NIH slots), or from WSU if the student is supported by a matching slot. If the Trainee performs his/her internship after Biotech support has expired, then it is incumbent upon the student’s PI or Department to cover, at a minimum, the student’s Pullman living expenses (rent, utilities, etc.).
- d) Are required to provide a written rotation and/or annual reports on the progress that mentored Trainees are making toward finishing their graduate degrees as part of their home department annual review of students with a copy to be sent to the Program. These annually submitted written reports are required for all years that a Trainee is in a mentor’s laboratory, regardless of whether the Program is providing financial support to the student.
- e) Are expected to actively participate in, and support, all aspects and activities of the Training Program. These commitments include: allowing Program Trainees to rotate in their laboratories (but no more than one per semester); to occasionally teach in Program required courses (if requested); to attend Program sponsored activities such as seminars, retreats and dinners; to participate in student-run Forum meetings and

events; and to attend the Annual Biotechnology Symposia, workshops, career fairs, and other events organized by the Forum.

- f) Are initially appointed to the Program for a period of five years before review for re-appointment. Shorter appointment periods are possible, however, depending on individual considerations concerning the mentoring of Trainees.

4) **Provisional Training Faculty:**

- a) Must be a member of the WSU Graduate Faculty.
- b) Research area must fall within the focus of the Program, as described above, and the research projects of Program Trainees mentored in their laboratory must also meet this criterion. The Executive Committee must approve the research focus of students prior to their joining the laboratory of a Provisional Trainer.
- c) Must have a co-mentor from among the current Active Trainers to help oversee the research and other activities of a Program Trainee. This Active Trainer must provide documentation that he/she will serve in this capacity and guarantee that in the event the Provisional Trainer is unable to mentor the student, that they are willing to do so.
- d) Must meet with the co-mentoring Active Faculty member at least once a year to discuss and critically evaluate matters relevant to a Trainee's progress in research and graduate studies. Together they must provide a written annual report to the Trainee Selection and Review Committee for evaluation. This annual written report on a student's progress is required for all years that a Trainee is in a mentor's laboratory, regardless of whether the Program is providing financial support to the student.
- e) Must be actively applying for external grant funding that could be used to support a Program Trainee after their two year support period ends.
- f) Must provide written documentation that their home department(s) guarantees financial support of a Program Trainee in the event that the Provisional Trainer does not secure external funding by the time the student comes off Program funding. A letter from the chair or graduate studies committee outlining a plan of support (TA or RA position) must be provided.
- g) May accept Program rotation students, but no more than one Trainee per semester.
- h) May accept permanent Program Trainees but only if they are co-mentored by an Active Trainer. This co-mentor must be on the student's committee

and assist in overseeing the both the student's program of study and their research activities.

- i) Are expected to actively participate in, and support, all aspects and activities of the Training Program. These commitments include: occasional teaching in Program required courses (if requested); to attend Program sponsored activities such as seminars, retreats and dinners; to participate in student-run Forum meetings and events; to attend the Annual Biotechnology Symposia, workshops, career fairs, and other events organized by the Forum.
- j) Are expected to assist Trainees with making arrangements for their required biotechnology internships. The Training Program's commitment to the Trainees is that their WSU appointment will persist during the internship. The Training Program requires that the internship firm provide financial support to the Trainee doing the internship (unless otherwise approved by the Director), in the form of salary or another mechanism, that covers, at minimum, all living expenses incurred by the Trainee during the internship. In addition, during the internship, the Trainee continues to receive internship financial support from the Program (NIH slots), or from WSU if the student is supported by a matching slot. If the Trainee performs his/her internship after Biotech support has expired, then it is incumbent upon the student's PI or Department to cover, at a minimum, the student's Pullman living expenses (rent, utilities, etc.).
- k) Are required to provide a written rotation and/or annual reports on the progress that mentored Trainees are making toward finishing their graduate degrees as part of their home department annual review of students with a copy to be sent to the Program. These annually submitted written reports are required for all years that a Trainee is in a mentor's laboratory, regardless of whether the Program is providing financial support to the student.
- l) Are initially appointed to the Program for a period of five years before review for re-appointment. Shorter appointment periods are possible, however, depending on individual considerations concerning the mentoring of Trainees. A Provisional Trainer may be considered for promotion to Active Trainer status by the Executive Steering Committee when the Provisional Trainer has successfully mentored a Ph.D. student to the point of candidacy; promotion may also be considered at the discretion of the Executive Steering Committee.

5) **Emeritus Faculty:**

- a) Previous Active Trainers who retire, or who are no longer willing to mentor students for a doctoral degree, but who still wish to participate in various activities of the Program may be appointed to Emeritus Faculty status.

Appointment as Emeritus Faculty is done by request to the EC and following a majority vote by the EC.

- b) Emeritus Faculty can choose which Program activity (or activities) they wish to be involved with and will be considered active members as long as they participate in this (these) at least once a year. Participation includes, but is not restricted to, activities such as recommending speakers for biotechnology seminars, suggesting Symposia topics, attending Program sponsored events, providing occasional guest lectures in biotechnology classes, and consulting with the Executive Committee on ways to improve the Program or any other forms of participation that the Faculty member wishes to engage in. At any time, Emeritus Faculty can request to again become Active Training Faculty and will be granted that status as long as they meet the Guideline requirements for that position.
- 6) The total number of Active plus Provisional Training Faculty in the Program should be commensurate with the total number of Trainees, with the aim of achieving an approximate 1:1 ratio of active Trainers:Trainees.
- 7) Evaluation of all existing Trainers (Active, Provisional and Emeritus) for re-admission to the Program will be conducted by the Program's Executive Committee on a staggered yearly basis. The entire Active and Provisional Training Faculty will be considered for re-appointment at least once every five years. Evaluation for re-appointment to the Program will be based on the criteria listed above. The Executive Committee has the authority to remove a Trainer from the Program at any time if the evaluation criteria are not met.