**Equivalent Experience In Lieu of the TATTO Teaching Associateship**

The fourth stage of TATTO, the Teaching Associateship, requires more substantial involvement in teaching a course and cannot occur before the third year of training in the GDBBS. However, because all Division students in their third year and beyond obtain part or all of their stipend support from research grant funds from Federal granting agencies, it would be inappropriate for them to teach a significant amount while being supported by a research grant. Since this is also the time frame in which all required courses in the Division Programs must be completed, and because there are limited opportunities for co-teaching in medical school courses and Division Program graduate courses, it will be logistically impossible for most Division students to fulfill the Teaching Associate requirement by Co-teaching.

Accordingly, this phase of a Division student's teacher training will most often be accomplished through a number of alternative teaching opportunities within their respective curricula. These are:

- Some of the graduate level courses available to students in the Division Programs and to undergraduates students in Biology and Allied Health Programs involve students giving the lectures on special topics. Students presenting lectures in these courses will be given credit toward completion of the TATTO requirement when the student works with the course coordinator and this teaching experience is analogous to that of being a Co-teacher.

- Students also make presentations on the progress of their thesis research. In some instances these are largely technical and would not qualify as a "teaching" experience. However, there are frequent occasions where these presentations involve explaining a new experimental model, technique or system to a new audience. This involves skills identical to the ones that the student may later use in teaching students, post-doctoral fellows, and technicians under their supervision. Therefore, when this experience is conducted as a TATTO activity, the student will benefit from having his/her presentation undergo an evaluation (with suggestions for improvement from a "teaching" perspective). In addition, students regularly participate in national conferences and symposia to present their research results. Preparation for these meetings often involves multiple practice sessions with students and faculty where there is a critique of the oral presentation (content and delivery), instruction on the effective use of AV materials, and how one handles questions and unexpected situations.

- As part of the Division Program curricula, students are required to formulate proposals for research projects, and to present them to faculty and students. They are evaluated on their ability to communicate the background of each proposal, its importance to advancement of science, and the feasibility of the methods they have chosen to study the problem. The students are encouraged to seek advice and guidance in the formulation of their proposals and in the most effective way to present them to others. They receive detailed input on the quality of their presentation with emphasis on content, presentation and communication.
• In Graduate Seminar classes, students are required to pick lecture topics, conduct extensive literature searches on current knowledge about the topic, and then present it in lecture/seminar format to other students and faculty. This experience is identical to that of preparing a lecture for an advanced, special-topics course. The students are evaluated on their presentations by both faculty and students, and coached on ways to be more effective in conveying new information to a wide audience.

• A vital part of the teaching experience of Ph.D.-level scientists is in the supervision of students' research projects in the laboratory. This involves formulation of the hypothesis, design of the experiment, collection of data, data analysis, and reporting of the findings. Often, more senior graduate students help newer graduate students in this capacity and, unfortunately, this usually occurs without any formal planning or evaluation. As part of TATTO, some Division graduate students will perform this function in the capacity of Teaching Associates. In these cases, the activity will be well planned out beforehand with the faculty member. Appropriate supervision and follow-up evaluation (of both the senior and more junior graduate students' experiences) will be conducted.

• There are also occasional teaching opportunities for Division students outside of the usual undergraduate/graduate courses, and participation in these can be applied toward TATTO if they achieve the goals of the Teaching Associateship. For example, some of the students in the NHS Program could be involved in teaching nutrition to patients who need special nutrition counseling (e.g. as part of the follow-up to cardiovascular surgery). Each of these will be considered for approval and evaluation by the Director of Graduate Studies on a case-by-case basis.

• Second or third year students may act as mentors for first year students in the graduate seminar course of their Program. Mentors will assist first year students in their choice of subject matter, in pursuing the literature, and in organizing their seminar presentations. Most importantly, the mentors will assist first year students in preparing and presenting their seminars. They will listen to practice seminars, provide guidance and critical input, and coach the first year students on the use of audio-visual aids. At least one of the coaching sessions during each semester will be monitored by the faculty member in charge of the seminar to assess the effectiveness of the mentor. This will be accomplished by having the mentor provide the faculty member with a schedule of the mentoring sessions, with the faculty member electing to attend one of the sessions unannounced. At the end of the semester, a written evaluation of the mentor, based on his/her effectiveness as a mentor (which can include an indication of ways in which the first year student's seminars improved as a result of mentoring) is submitted to the Program DGS. The evaluation becomes part of the mentor's file and is recorded on the appropriate forms to verify that the Teaching Associate requirement has been met.