Training Grant Critiques

1) Directors:
“Dr. Barry Shur is a well-respected scientist. He heads a productive and well-funded laboratory and has extensive experience in training graduate students and postdoctoral fellows.” “Dr. Barry Shur is a committed and thoughtful leader who has very successfully involved faculty colleagues in the program and empowered them in its oversight.” (BCDB)

“This is an excellent program. Its strengths include the enthusiasm and energy of the program director…Dr. John Lucchesi is a well-known, respected geneticist, has a commitment to teaching and training, and is an experienced administrator. His overall leadership of the program is excellent. (GMB)

“The program director is well-supported by the NIH and is an experienced trainer. Overall, Dr. Dingledine is an outstanding director and is a significant strength of this program.” “He is clearly an outstanding choice to direct this training program.” (MSP)

“One of the strengths of the program is the Program Director. Dr. Jones is a well recognized expert in biochemical toxicology… The areas of his research productivity and mentorship are closely related to the stated mission of the program.” (Toxicology)

“The program director, Dr. Yoland Smith, is a professor in the Department of Neurology and a member of the Yerkes Primate Center. He is a very well-funded neuroscientist with a large, active and productive laboratory… [and] is highly dedicated to the program, serving as the Director of Graduate Studies (DGS) prior to becoming the program director in 2004. His leadership style is clearly one of consultation and working to bring consensus among faculty and students. Both faculty and students have access to him. He devotes considerable time and effort to the program… Dr. Smith is a major strength and asset.” (NS)

(PBEE – no mention)

2) Faculty (and new faculty):

“The faculty members are very good to excellent.” “The active participation of the faculty in programmatic activities results in close interactions among the faculty and between faculty and students.” “Another positive aspect of the BCDB program is the stringent requirements for admission of new faculty into the program. New faculty are judged on the bases of funding, publications, training experience and required to present a seminar to faculty and students who then vote on the appropriateness of the appointment.” “The faculty members are enthusiastic and keenly interested in the development of the students through the graduate program.” (BCDB)
“The trainers include accomplished geneticists from a wide range of sub-disciplines who work on a variety of model organisms.” “Program faculty members are expected to maintain an active, extramurally funded research program, participate in graduate teaching, and contribute to the activities of the program. All faculty members must present a public, formal research seminar on campus at least once every three years. Failure to fulfill these obligations leads to a probationary period during which trainers are not allowed to take new students.” (GMB)

“The training faculty members are well-supported, generally publish in first-rate journals, and seem genuinely committed to graduate education.” (MSP)

“The strengths of this proposal are the qualified leadership, the faculty members with their research interests directly related to the toxicological sciences, and the excellent research environment.” (Toxicology)

“The training faculty consists of 74 members from the 104 total faculty members in the graduate program. The subset was selected for its willingness to train students, successful track record in training students and the strength and funding of the individual faculty’s research programs.” “There is an impressive range of neuroscience represented as well as an appropriate mixture of senior and junior faculty.” “There have been considerable investments in new faculty. Also important is the strong participation of clinical departments, particularly neurology, in the Neuroscience Program.” “Nearly all faculty members are funded, and most are very well funded. They have very strong training records… [and are] actively publishing, largely in a broad array of specialty journals appropriate to the neuroscience focus of the grant.” (NS)

“All faculty have impressive research track records, both in terms of scientific productivity and research funding.” “Overall, the caliber of the training faculty is outstanding. With few exceptions, scientific productivity is high and the quality of the peer-review journals is top-rate.” “The preceptors are first rate researchers.” “A unique feature of the training faculty is that they must maintain a level of activity in the PBEE program to continue to supervise students (i.e. by presenting a seminar once every three years… This initiative is very positive and should ensure students receive the best type of supervision.” (PBEE)

3) Campus and off-campus resources:

“Most of the faculty are within the same building. This is a great strength of the program.” “Institutional architecture encourages interactions because essentially all basic science faculty members have their laboratories in two interconnected buildings.” (BCDB)

“The physical concentration of trainers in common facilities, rather than being dispersed around campus, is critical to maintain program identity and focus.” (GMB)
“The Atlanta area is extremely well-endowed scientifically and the Yerkes Primate Center is unique in this area.” “A significant strength of the program is the participation of faculty from the Yerkes Regional Primate Center that offers unique opportunities to graduate students interested in substance abuse and behavioral psychology using non-human primates as models.” (MSP)

(Toxicology – no mention)

“The environment at Emory for neuroscience research and training is excellent. The large number of centers and programs, including the Yerkes Primate Center, provide for considerable research and training depth. “ “Training opportunities include a large array of journal clubs, specialty seminars, and symposia. Particularly relevant is the Frontiers in Neuroscience series—training grant students are charged with inviting and hosting some outside speakers for this seminar series, and most had taken advantage of this and appeared to benefit from the activity.” “Emory University has excellent facilities that are appropriate to its training mission. Overall, there is strong institutional support for the program.” (NS)

“The campus is extensive but there is ease of access and close proximity among all facilities.” “A field component is not included in the program and seems a major omission, especially since clinical and public health applications were included as a major goal of the program.” “The strengths are the extensive graduate program in biological sciences and public health at Emory, and the proximity and affiliations with the CDC.” (PBEE)

4) **Interdisciplinary nature of program(s):**

“The diverse interests [of the faculty] offer students a broad spectrum of research opportunities.” (BCDB)

(GMB – no mention)

“There is substantial flexibility for the transfer of students from one divisional program to another.” (MSP)

“This multidisciplinary collaborative environment combined with the openness of the design of the training program may attract potential students who are interested in combining several disciplines related to toxicology.” “Another major weakness of the proposed program is its dependence on the Molecular and Systems Pharmacology Program and its tenuous link to other existing training programs at Emory University in areas related to toxicology… The proposed toxicology program is sometimes indistinguishable from the Molecular and Systems Pharmacology Program.” “This program is a subsidiary unit of the Molecular and Systems Pharmacology Program rather than an independent training entity.” (Toxicology)
“Strong participation of clinical departments, particularly neurology, in the Neuroscience Program.” “The training program in systems and integrative neuroscience is designed to train students using an approach that breaks down departmental barriers and facilitates collaborations and this seems effective.” (NS)

“The Executive Committee (Director and three members) is made up exclusively from faculty in Biology. It is unclear whether there is a fourth member (from CDC) as there is contradictory information between text and tables. For an interdisciplinary program, representation from other academic units would seem to be important. It is unclear how the thesis research is interdisciplinary in nature.” “An applied multidisciplinary dissertation research is not specifically mentioned in the description of the program. There does not seem to be a requirement that the thesis project either be multidisciplinary or benefit from mentors from different disciplines (especially the clinical and public health disciplines).” (PBEE)

5) (Non-minority) recruitment and applicant pool:

“Due to the low number of applications, the program appears to be forced to accept too many students in order to end up with a class of 9… It appears that the program enrolls students with qualifications only slightly above the average of those of all applicants. Students who enroll attended good, but not the top undergraduate schools.” “One of the challenges of the BCDB program is to increase the number of applicants as well as their qualifications.” “The overall quality of the student pool is solid. One of the most important criteria to evaluate students is previous research experience.” “It is questionable whether the current applicant pool is deep enough to support a large slot increase.” “There seem to be no specific plans in place for enhancing recruitment, beyond increasing institutional visibility, particularly by increasing faculty publication in high profile journals.” (BCDB)

“The number of applicants to the GDBBS continues to grow. A similar trend is seen for GMB applicants. The pool is biased to students from the region, but some students from other parts of the country do apply. Based on GRE scores and GPA, and the number of non-US applicants, the pool of highly qualified applicants is not deep. Several accepted students in the past group had GPAs less than 3.0 and quite modest GRE scores. The top students in the country are not applying en masse to this program.” “A key question here is whether or not the applicant pool justifies an increase in training positions from 7 to first 10 and then 12… The increase to 10 stipends is not justified.” (GMB)

“The coordinated Division recruitment effort seems particularly strong and effective.” “Several students described very positive interactions with program faculty as their reason for choosing Emory. Recruitment appears to work well. The overall quality of the applicant pool is very good to excellent.” (MSP)

“Information in the application states that the major selection criteria for students to this training program include the quality of the applicant, research potential and the
interest of students in the pharmacological sciences. It is surprising that toxicology does not appear to be a factor in the initial screen.” (Toxicology)

“The GDBBS has a full-time recruiter who attends GRE forums and recruiting fairs, as well as focusing on minority recruitment.” “The program recruits approximately 10-13 students per year. In 2005, 17 students accepted offers (a 50% success rate). Their GREs and GPAs are excellent. Most students had many other offers, including some from the highest ranked neuroscience programs in the U.S.” “The applicants are from across the United States, including from major research universities as well as smaller four-year colleges. The diversity of the applicant pool is a plus. The applicant pool is considered excellent.” (NS)

“High quality candidates do apply, although there are also quite a number of candidates with low GREs or low GPAs who apply. Selection of candidates seems to be quite selective in favor of the high quality candidate.” (PBEE)

6) Minority recruitment:

“The program receives a significant number of applications from underrepresented minority (URM) students. It is encouraging that these applicants are initially asked to interview (the first cut-off) by more flexible criteria than simply GPA or GRE scores. This takes into account the lack of resources that many of the URM applicants must face.” “When for two consecutive years all six URM applicants declined their offers, the program director appointed someone to investigate the issue.” “An innovative program called PROMISE has been initiated where URM students will go through a transition year before their Ph.D. degree studies.” (BCDB)

“Letters and/or brochures announcing GDBBS programs are mailed to minority prospects participating in the GRE Minority Student Locator Service and to science departments at historically black colleges and universities. Letters and summer program flyers are also mailed to these departments. The GMB program has had success in minority recruiting. There is a newly instituted special program in place to target local area traditionally black colleges with a recruiting weekend that engages both students and faculty from those institutions. Dr. Lucchesi also serves on the advisory board of two initiatives submitted to the NIH from Morehouse College, one focused on students (RISE), the other on faculty development (SCORE). In addition, Dr. Lucchesi has established ties with a MARC program director at Grambling State University and the GDBBS has obtained a PREP grant designed to give post baccalaureate experience, access to undergraduate courses, and to a GRE preparatory course. Efforts to recruit underrepresented minority students are acceptable.” (GMB)

“In general, the efforts to recruit minority applicants seem to be somewhat effective for the Division. However, the number of minority students matriculating in the MSP was 11% overall, and 0% during the last two years (1999 and 2000).” “The minorities in the MSP program have had difficulty completing the program. Over the
past six years, every one of the minority applicants that enrolled in the program has dropped out. This is a disturbing statistic. Although the administration has expressed concern over these data, no ideas about what to do to resolve the issue have been proposed. The lack of minority faculty members who participate in the MSP may contribute to the difficulty in matriculating and retaining minority students… Efforts to recruit minority students are considered unacceptable.” (MSP)

“Several of the faculty in the Molecular and Systems Pharmacology Program actively participate in recruiting activities at institutions such as Morehouse College. In 2002, 31% of students admitted to the Molecular and Systems Pharmacology Program were minorities. This is acceptable.” (Toxicology)

“The GDBBS has a full-time recruiter who attends GRE forums and recruiting fairs, as well as focusing on minority recruitment.” “It is notable that about 4 URM offers are made each year, and an average of 3 URM students matriculate, thus composing 18% of the average class during this period.” “The program has been extremely successful in enrolling outstanding underrepresented minority students during the past five years.” “The neuroscience program participates in all of the traditional mechanisms to recruit minority students and in addition to the advent of the NSF Center in Behavioral Neuroscience (CBN) is a significant step in minority recruitment for the Neuroscience program. The CBN unites Emory with Georgia State University (with a high minority enrollment) and with the HBCUs of the Atlanta University Center. A significant mission of the CBN is undergraduate education. Many of the neuroscience faculty have given seminars and research trainings to minority colleges.” “The faculty and students appear to be actively engaged in and committed to URM recruitment efforts. Recruitment of underrepresented minority students is judged to be acceptable and indeed commendable.” (NS)

“In addition to an Open House, a National Minority Research Symposium and a Summer Undergraduate Research Experience, the PBEE intends to initiate a recruiting weekend where students from local and traditionally minority-attended universities visit the campus and attend a presentation of research activities undertaken by training faculty… Lastly, the GDBBS hosts the PREP program for minority students and expects that on completion, some of these students will apply to the training program. This is a very adequate recruitment strategy.” “The GDBBS has a full-time minority recruiter. Efforts include mailings of letters and brochures to historically black colleges, an Open House program, attendance of GDBBS recruiters at the National Minority Research Symposium, and a summer undergraduate program. Additionally, the PBEE program will initiate a weekend program specifically for traditionally black institutions in Atlanta. A similar program in Genetics and Molecular Biology has produced good results. The GDBBS has an NIH grant to support ten slots per year for minority students who have a BS degree and want to pursue a graduate degree.” “The recruiting program is competitive with that
of other graduate programs. Minority recruitment, particularly in the Atlanta area looks promising.” (PBEE)

7) Coursework:

“The coursework is satisfactory without being demanding.” “A laudable feature of the program is that the senior students are also involved in the educational development of the junior students through the grant course.” “The most distinctive feature of formal training is the emphasis on writing. In one course uniformly praised by the students, each student must write a 15 page R01, which is then reviewed by an all-student study section… This course could be a model for innovation elsewhere.” (BCDB)

“The application stresses flexibility in training… Students are supposed to meet with their committees twice per year. There is however, no discussion of compliance or to what remedies are in place if there is no compliance.” “Efforts to teach the responsible conduct of research are acceptable.” (GMB)

“Additional strengths include the requirement for three laboratory rotations and the flexibility and freedom trainees have to choose their electives, rotation laboratories, and Ph.D. mentors.” “Students who have completed the course [IBS 606] suggest that the format is quite different from that described in the application. While the students have taken the course, they are not overly enthusiastic about it, nor are they quite sure about its importance. There does not appear to be much involvement of MSP faculty in the formal (classroom) ethics training. Since the course appears to have little impact on the students, the efforts to teach the responsible conduct of research are considered marginally acceptable.” (MSP)

“Instruction in teaching and teaching opportunities for graduate students are a strength of the program… However, it does not appear that students receive academic credit for these required teaching activities.” “The other major weakness is the inadequate toxicology curriculum. Total toxicology credits exercise only a small fraction of overall courses taken by students.” (Toxicology)

“The program has a defined core curriculum with two major neuroscience courses in the first year, one focused on systems and the other cellular/molecular neuroscience.” “The program is continually working to maximize the didactic training, and use faculty and student input to guide their changes. The fact that the curriculum is constantly undergoing some modification is viewed as a strength. Overall, the curriculum is highly appropriate.” “The students have somewhat mixed views of the coursework—they agree that the courses are strong and valuable, but some would like to see more flexibility in the program and an opportunity to get into research labs more quickly.” (NS)
8) **Current students/ student guidance/ attrition:**

“The combination of coursework, seminars, and journal clubs, in which all students and faculty actively participate, contribute to the establishment of a closed-knit community; the students feel closely identified with the program, they are aware of each other’s research and they enthusiastically participate in program activities.”

“The dropout rate is low; only 2 students out of 48 have left the program since 1999, and 2 more were asked to leave due to unsatisfactory progress… Out of 82 students who graduated in the 1999-2001 period, 23 are in the faculty at various universities and 21 are in industry or government. These numbers suggest that the BCDB program succeeds quite well in preparing students for successful research careers.”

“Students, who are extremely pleased with the program, are doing interesting science and publishing in good journals, and they are uniformly articulate about their projects. They consistently praise the collegial, effectively family-like atmosphere, and the open-door policy that encourages them to seek advice from many sources. The program has nearly 100% retention, and students finish in a timely fashion. Each year, training grant students take on a major responsibility together. The students organize an annual Symposium that brings in outside speakers in a topic the students have chosen…The Symposium is the most high profile training grant activity, and the posters from the Symposium are proudly displayed in the office.” (BCDB)

(GMB – no significant mention)

“Overall, the senior and intermediate students are excellent to outstanding and distinctly are benefiting from the program. The intermediate students are impressive as a group. All are completely engaged in thesis research about which they are able to converse knowledgeably.” “Career advising is widely and appropriately available.” “The current students are articulate and enthusiastic about their science.” “The students are uniformly very good to excellent, very dynamic, well prepared, and remarkably loyal to the program.” “The students feel that their opinion is taken into account and that some aspects of the training program have been altered to include students’ suggestions. One example of these is a student mentoring system in which the more senior students work with the junior students, helping them to adjust to the program, providing advice regarding rotations and electives, and other important aspects of academic life at Emory.” “Eliminating health and family issues, the attrition rate is about 30%, which is a surprisingly high number.” (MSP)

“This program is designed as a training program in which departmental (and therefore, disciplinary) barriers are minimized. This may create an atmosphere where students can tailor their training to fit their own needs and interests so that the training can be highly personalized. This can only be a strength in a program where there is strong guidance offered to the students. The lack of structure will make it difficult for many students to navigate the myriad of choices that will be presented to them. This can be counterproductive to young predoctoral students with limited exposure to research themes. The plan is that students will receive individualized guidance from
the Dissertation Committee. However, the student must already have a good idea of the topic of their dissertation in order to choose a Dissertation Committee.” “There are two other mechanisms given for career guidance, one during the Molecular and Systems Pharmacology Executive Committee event and the other during a medical school career counseling event. Neither of these events have a primary focus on guiding the toxicology students in developing their curriculum and do not seem to be an adequate opportunity for individualized guidance.” (Toxicology)

“The junior and mid-career students really seem to be a cohesive group, and are all very aware of what their colleagues were doing in their classes and research. The senior students are a strong group and most are publishing their work in good to high quality neuroscience journals. These students have an enviable success rate at obtaining independent NRSA or equivalent awards in their later years. Most are in the process of making career plans, and many are planning or considering academic postdoctoral positions. Many are involved in collaborative research with investigators at Emory and elsewhere. Not surprisingly, the sense of community was not quite as strong among the senior as the junior students. While these senior students were able to articulate their work, somewhat lacking was a sense of excitement about their work, their findings and their futures. Overall, the trainees appear to be a highly qualified group.” “The vast majority of students at all stages of their careers identify themselves as neuroscience students first, with their department second. The sense of identity, devotion and participation in the program amount the students was high and a strength.” “Evaluation of students occurs twice a year by the executive committee and director of graduate studies.” “There… seemed to be good back advising and flexibility. Career and postdoctoral advising seems adequate and there are informal connections with industry, law firms, and others; there is also a postdoctoral resource office.” (NS)

“The core and elective courses available to students are numerous and appropriate.” (PBEE)

9) Funding/support:

“One of the challenges of the BCDB program is to increase the number of applicants as well as their qualifications. Increasing the graduate student stipend from its current level of $21,500 might help move towards this goal by making the program more competitive with respect to its peers.” “Emory University is very generous with student support in the Division, providing two years of support for each graduate student. Nonetheless, the university stipulates two years of support for each students, even though the same sum of money could be used to support and increase in the number of students, by decreasing duration of support.” “The stipend level does seem low with respect to peer institutions… More flexibility in adjusting stipend level might enable Emory to recruit better students. In longer term, the relatively low stipend level can only work to the institution’s detriment.” (BCDB)
“The program is excellent and support should be continued. The justification for an increase to 10 stipends rests primarily on the fact that more faculty members are being hired. In contrast, the applicant pool shows no signs of increasing substantially in depth and quality over what has been available. Therefore, the increase to 10 stipends is not justified.” (GMB)

“The extramural funding at Emory is exceptional… However, there is a very strong and some feel, excessive, emphasis on attracting extramural support… Loss of extramural support results in near-immediate withdrawal of intramural support. This policy seems potentially short-sighted.” “The Division is supportive of each of the component graduate programs and awards extra positions when NIH funding is awarded or when a strong case can be made for additional support.” “The Division rewards programs that receive extramural support with a number of matching positions. The present formula is one matching position for every two positions funded by the extramural training grants. By the same token, the Division withholds support from programs that fail to obtain extramural training grant support. This pragmatic policy is not without merits, but it also presents some potential dangers.” (MSP)

“Institutional support consists of administrative support and matching funds for tuition and stipends… The level of the institutional support is vague, uncertain, and nonspecific. The application lists a number of mechanisms as examples of institutional support. These mechanisms, however, are clearly general policies applied to all graduate students in every discipline. No committed, specific support toward the proposed training program was mentioned, neither was the evidence of such support provided.” (Toxicology)

“The institutional financial support is impressive. .The GDBBS provides extensive staff for supporting all aspects of the graduate program. The GDBBS provides 2 years of support for each student. This includes 1-1 matching for student slots on training grants. That provides support for 1st and 2nd year students, and a 1-2 match for slots that support more senior students on the training grant.” “In the past the training grant was used to support students in their first and second years. The new proposal is to primarily support students in their second year.” (NS)

(PBEE – no significant mention)