

**Cancer Biology Chair and Program Directors Retreat
Cancer Biology Training Consortium 2008 Annual Meeting
Deer Valley, Park City, Utah
October 17-19, 2008**

Reports and Minutes

AGENDA

Friday, October 17

Guest Speaker

Frank M. Torti, M.D.

Principal Deputy Commissioner & Chief Scientist, FDA
"Fellowship Training at the FDA: Opportunities for Careers
in Regulatory Science"

.ppt presentation available upon request

Saturday, October 18

Graduate Student Sessions

Training Program White Paper Review and Discussion

Facilitator: Kathleen Rundell

Discussions with Karen Heichman, PhD, Assistant Vice President of
Oncology Product Development & Licensing, ARUP Laboratories and
Adjunct Assistant Professor of Pathology, University of Utah

Facilitator: Don Ayer

Future Career Aspirations

Facilitator: Douglas Spitz

Faculty Session

Applying for New Grants in CB Training

Facilitator: Lynn Matrisian

Breakout One: Minority Recruiting

Facilitator: Ann Roman

Breakout Two: Medical School Training

Facilitator: James Manfredi

Breakout Three: CABTRAC Website development

Facilitator: Sheridan Wilder

Breakout Four: Engaging Undergraduates

Facilitator: Jim Broach

Working Lunch

NCI Presentation:

Lynn M. Amende, PhD

Nancy C. Lohrey, MS, MT-ASCP

Jonathan S. Wiest, PhD

Poster Session

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Sunday, October 19

Business Meeting

General Session and Reporting

Discussion - The Generational Gap: how does it influence Cancer Biology training?

Facilitator: Lynn Matrisian

Compact: Students & Research Advisors handout available upon request

Opportunities and Challenges: Cancer Biology in Cancer Centers

Facilitator: Amato Giaccia

*See **Giaccia – Cancer Centers** PDF document*

Report from Graduate Student White Paper Review

Reporter:

Report from Graduate Student Career Aspirations Discussion

Reporter:

Report from Faculty Group 1- Minority Recruiting

Reporter: Bob Pauley

Ann Roman, Wade Gibson, Kathy Rundell, Steven Rosenzweig, Gwen Mahan, Chris Counter, Jesse Martinez, Michelle Le Beau, Karin Scarpinato, Steve Akman, Don Ayer, Susann Brady-Kalnay, Bob Pauley, Jonathan Wiest, Lynn Amende, Nancy Lohrey

Report from Faculty Group 2 - Medical School Training

Reporter:

James Manfredi, Stephen Byers, Douglas Spitz, Frank Torti, Stratford May

Report from Faculty Group 3 - CABTRAC Website – development

Reporter: Danny Welch

Sheridan Wilder, Danny Welch, Scott Weed, Lynn Matrisian, Marja Nevalainen, Steve Nordeen

Report from Faculty Group 4 - Engaging Undergraduates

Reporter:

Jim Broach, Amato Giaccia,

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Report from Graduate Student White Paper Review

By Heather O'Leary (West Virginia University)

Introduction: (No comments)

Foundation courses: Modifications and comments made for the foundation courses were:

- 1) Students agreed with the core components but felt that the biostats courses provided in their programs were not really useful. They would like to keep this class but modify it to be more specific for how they would use statistics to analyze their data etc.

A1-A3:

- 2) Courses that were suggested as additions that would be useful consisted of:
 - a. Grantsmanship course (writing of a mock grant etc.) as well as data interpretation.
 - b. Histopathology (of **normal** and diseased tissue), Systems biology or Epidemiology (these could also be placed under foundation courses as they are to give an overview of the system and are not specific to the disease state.)
 - c. Therapeutics course (Explanation of commonly used chemotherapeutic compounds/inhibitors used in clinic and their mechanism of action.)
 - d. The ability to shadow and have clinical opportunities such as participation in tumor boards (The students felt this should definitely be offered but were split with regard to this being mandatory as some did not want to participate in shadowing.)
 - e. Translational lectures or journal clubs with fellows to discuss both the disease and the basic science aspects. Additionally some students wanted a class taught by the clinicians to discuss the aspects of the disease state that they see in the clinic and the compounds that are currently first line of therapy in the patients.
 - i. A mixture of clinical symposiums and seminars. This would be designed to obtain information about the disease as it presents in the clinic and how the basic science research helps to understand the disease state and has the potential to influence treatment.

Additional comments: The students suggested "networking" sites between researchers and clinicians (maybe on the CABTRAC website).

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Report from Graduate Student Career Aspirations Discussion

By Mario Blanco (Princeton), Brittany Cross (USoFla), and Douglas R. Spitz (Iowa)

The first decision Ph.D students are faced with is whether to continue on the “expected” career path as an academic by pursuing an academic post-doc position with the intention of eventually obtaining a tenure-track faculty position. In our focus group of 23 students, less than 50% of students are currently aiming for such positions. Dr. Spitz also mentioned that in the 45 year history of the program at the University of Iowa about 15-20% of graduates were able to transition to tenure track positions with NIH PI level support but 60-70% went into alternative careers in fields related to cancer biology. Since many students wishing to pursue the academic research career path were getting a great deal of advice from PIs and scientific peers on postdoctoral job opportunities, the discussion at this group meeting focused on alternative career paths for cancer biology trained Ph.D. scientists.

Alternative careers under consideration roughly fall into the categories of (1) scientific teaching, (2) industry science, (3) science administration, (4) law/science policy, and (5) medicine. The overwhelming consensus from our session was that PIs need encouragement from organizations such as CABTRAC to respect these options as viable and no less successful than standard academic research science career paths. At the same time, students should know that their PI is not the only person who can support and guide them in their career choice process; professional or student run organizations and websites can serve as repositories of information pertinent to Ph.D. scientist job opportunities. As well, use of personal connections in or outside of the student’s department (thesis committee members, collaborators, scientific peers, etc.) are also beneficial for making informed decisions.

One of the primary concerns for Ph.D. students not intending to pursue traditional academic research science is how to choose the right career path without having prior experience in that area. For those students considering a career in teaching, the obviously desirable hands-on experience would be to TA classes at their university; however, many cancer biology students are at medical schools with few, if any, teaching opportunities. For such cases, we encourage CABTRAC faculty and students to persuade PIs and departments in general to arrange for TAing opportunities for the interested student, even if not part of the standard graduate program at the department. TAing commitments need not interfere with research progress (many departments require students to teach at least once in their programs), and teaching experience often enhances knowledge and command of the given subject, which can only be seen as beneficial to the student’s own research project.

Among the most common alternatives to the academic career path is research in industry science. As with teaching, students are concerned with some PIs’ lack of support for this career choice, with the stigma sometimes being that teaching or industry science positions are for less capable scientists. As much of medical (especially cancer-related) science has been advanced by industry researchers, we feel that PIs and departments should work on breaking down the academia/industry barrier, and providing helpful support for students seeking industry career paths. In general, as the academic training environment is very self-focused, students interested in industry science feel less informed on the status of their job options and marketability outside of academia. Many are curious to know: What level of scientist are we considered to be? Technically speaking, what, beyond having a Ph.D., are we qualified for? And how would this change based on postdoctoral experience and the resultant publications? It was also noted in our session that many of our scientific peers (eg. labmates, classmates) have close connections to people in industry science, and asking for advice from them whenever possible would be very beneficial. Finally, the students agreed that outreach events from industry, in the form of job fairs, websites, alumni contact lists, etc. would be very helpful for making informed decisions about job options in this field.

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Report from Graduate Student Career Aspirations Discussion *continued*

In terms of other career possibilities discussed, such as law, policy, science administration, and medicine, the top concern of students is simply the lack of information available on these types of jobs. Put simply, we know these jobs exist, but often times we don't know what they are or where to start finding information about them. For example, science administration jobs, such as grant reviewers, writing instructors, SRAs, and liaisons between science departments and business or other professional organizations, appear attractive to many but are seen as few and far between. Nonetheless, simply having some knowledge about how many of these types of positions exist and just how scarce they may or may not be would be very desirable. Information from websites and outreach from current scientific administration professionals is seen as the best way to increase exposure to students about these job opportunities. As for jobs in law, policy, and medicine, the sense among students is that there are many attractive jobs in these arenas, such as work in patent law, intellectual property law, science and technology development and regulation, and health policy. The problem is that these areas are so different from the typical graduate laboratory scientist experience that students don't know where to start in terms of finding out what the realistic job options are. Fortunately, many universities offer seminars and classes in some of these areas, and students may benefit from attending some of these events or talking with people in law, policy, and medicine departments to learn more about what the demand is for Ph.D. scientists in their fields.

To conclude, the students wished to emphasize that the medical science community – especially the cancer biology community – should recognize and support both academic research and non-academic research career paths as successful, viable options for Ph.D. students. Cancer biology scientists performing research – both basic and applied – as well as scientific education, law/policy making, and medicine that will all contribute greatly to the overall societal battle against cancer.

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Report from Faculty Group 1- Minority Recruiting

By Kathy Rundell (NWU), Ann Roman (UIndiana) and Robert Pauley (Wayne)

Introduction

NIH requires a "Recruitment and Retention Plan to Enhance Diversity" in all training grant applications (R25, T32, etc). The Plan "should describe the recruitment and retention efforts to diversify the biomedical ... workforce through increased participation of talented individuals" from the following categories. The Plan must include both recruiting and retention efforts for underrepresented ethnic and racial groups, for individuals with disabilities, and for individuals from disadvantaged backgrounds. NIH acknowledges there is experience recruiting and retaining underrepresented ethnic and racial individuals. It is imperative to begin analogous recruiting and retention efforts, which are part of the Plan, for individuals with disabilities or from disadvantaged backgrounds. Identification of individuals of diversity was recommended to have the goal of promoting inclusion using a survey vehicle encouraging voluntary self-identification. The NIH site http://grants.nih.gov/training/faq_diversity.htm provides guidance, and is the basis for the following. These categories must be reported in PHS2590, "Trainee Diversity Report", and specified for females and for males separately.

- 1) Underrepresented ethnic and racial groups.
 - a) Ethnic Groups are Hispanic or Latino.
 - b) Racial Groups are American Indian/Alaska Native, Asian, Native Hawaiian or other Pacific Islander, Black or African American, White, More than One Race.
- 2) Individuals with disabilities.
 - a) Defined as physical or mental impairment that substantially limits one or more than one major life activities. Impairments include blind, deaf, learning disabled, physical, vocal, or other.
- 3) Individuals from disadvantaged backgrounds, that is, economically, socially, culturally or educationally disadvantaged.
 - a) Defined as from:
 - i) A family with an annual income below established low-income thresholds, which the institution must be able to demonstrate.
 - ii) A social, cultural or educational environment, e.g. rural or inner-city environment, that has demonstrably and recently directly inhibited from obtaining knowledge, skills, and abilities necessary to develop and participate in a research career. Recruitment and retention plans related to a disadvantaged background are most applicable to high school and perhaps undergraduate candidates, but would be more difficult to justify for individuals beyond that level of achievement.

These new requirements were discussed extensively by a working group at the 2008 annual CABTRAC meeting. This CABTRAC working group discussed efforts that would need to be made to identify as well as retain such individuals for both pre- and postdoctoral applicant pools.

Ms. Lohrey (NCI) noted a major NSF report that not only defines groups with disabilities but also provides much information on institutions that are successfully addressing their training (<http://www.nsf.gov/statistics/wmpd/pdf/nsf07315.pdf>). For example, 12 PhD-granting institutions were identified as having more than an average number of disabled trainees in engineering or the life sciences. The experiences of these institutions may be helpful to others, and this report will be posted on the CABTRAC website.

**Cancer Biology Chair and Program Directors Retreat
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Report from Faculty Group 1- Minority Recruiting *continued*

Recruitment to Doctoral Programs

Recruitment of underrepresented ethnic groups can include attendance at meetings such as SACNAS, ABRCMS. There was some discussion of other organizations that should be included in recruiting underrepresented minorities as well. These include groups such as the CIC/Big Ten summer programs, California and east coast organizations that offer opportunities for summer training or pre-doctoral enrichment. Formal programs along these lines include PREP and NSF STEM programs, and institutions that have such programs could be targets for recruitment. Also mentioned were institutions that now have P20 MICCP programs, in which minority institutions partner with defined Cancer Centers, and various Bridge Programs, e.g. Master's to the PhD, in which institutions partner with those identified as minority-serving institutions (MSI's).

These strategies cannot be extended easily to seek out individuals who are disadvantaged or disabled. One target area that was identified was institutions with McNair programs, because these are open not only to underrepresented minorities but also to economically disadvantaged students. In addition, California offers free education through its community colleges to academically qualified students who are economically disadvantaged. These are possible targets for recruitment. Otherwise, recruiting in these areas is likely to be challenging.

Several of the participants agreed that it would be helpful if institutions had a "bubble" on application forms which applicants could check if they believed they were somehow disadvantaged or disabled. It was noted that applicants may perceive that this will somehow mark them, making them less attractive in the review process. To overcome this, program websites and applications should include statements making it clear that applications from these two new groups are encouraged and welcomed. Websites could even go one step further by providing links to campus offices that may be available to support any student with a special need (e.g. Office of Adaptive Educational Services). Similar statements could also be added to any posters or brochures being mailed to, for example, undergraduate research advisors, or campus diversity offices, which may influence student choices. For legal reasons, it is not possible to directly ask such advisors whether they know any disadvantaged or disabled students. However, making this clear generically is important and would allow the advisors to know that our programs would provide a welcoming environment. Similarly, it might be helpful to know if applicants request fee waivers, but the legality of obtaining this information would have to be determined.

A major recruitment activity sponsored by the Cancer Center of Case Western Reserve University was described. This center holds a major research conference every other year and invites all students from schools in the state of Ohio to attend and present their research. It also invites student advisors, the concept being that these faculty will be recommending doctoral and postdoctoral programs to future undergraduate and graduate students. While expensive, this kind of outreach increases the potential for recruiting in all majority and minority groups.

The participants in this workshop also welcomed the expansion of the CABTRAC website. It was recognized that, through this website, we can all share our thoughts on how to extend our recruiting efforts. In addition, we can encourage students we have now to use this website to look for future opportunities as postdoctoral fellows or applicants for permanent positions.

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Report from Faculty Group 1- Minority Recruiting *continued*

Retention of Underrepresented Ethnic Groups/Disadvantaged Individuals

Retention of all students is as important as their initial recruitment. Several mechanisms were discussed for retention of underrepresented minority students who may need additional preparation to succeed in graduate programs. Several institutions have IMSD programs that build close mentoring, study groups and other activities into the initial years of graduate training. This is to be encouraged.

The group also discussed several issues related to retention of other disadvantaged students, and not all of these issues had clear solutions. Students from economically disadvantaged backgrounds may carry significant debt from their undergraduate studies. It may be helpful for such students to recognize that doctoral programs provide stipend and tuition support and that loans can be deferred while a student is in a doctoral program. A serious concern for many students is childcare, and the cost can make graduate study impossible for some, especially single parents. Students with physical handicaps or learning disabilities may need assistance in a variety of ways. Most institutions have experience in students who need additional time for exams or other forms of support. It is particularly helpful if graduate students have clear access to offices that support students with various disabilities at the undergraduate level. If this is not possible, such offices may need to be developed at the appropriate site – institute, medical school, etc.

Postdoctoral and Fellowship Programs

Recruiting becomes even more difficult for advanced programs in which applicants often directly contact a PI. It will be critical for PIs or programs to keep records if they receive inquiries from any disadvantaged or disabled individual, and this may have to be from self-identification. Again, welcoming websites and application forms may be helpful in encouraging such self-identification.

Some institutions have found it difficult to recruit to medical fellowship programs. Several participants felt that these may be most successfully recruited “from within.” Thus, identifying medical students who fall within the three diversity categories and encouraging them to consider research options early on in their careers may be helpful. It is extremely difficult to recruit at meetings such as ASH, AACR because the pool has shrunk so significantly by the time trainees are entering residency programs. Here again, ‘sharing’ potential trainees through the CABTRAC website may be helpful to us all.

Other Issues

New or competing renewal T32 submissions, and even progress reports, will have to address strategies, but we assume that review committees will not expect demonstrated success in these new areas yet. Nonetheless, program directors should query current trainees to see if any might fall into the various underrepresented groups. This might also help programs learn of strategies that might be helpful in recruitment and retention.

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Report from Faculty Group 2 - Medical School Training

By Stephen Byers (Georgetown), Douglas Spitz (Ulowa),
Jim Manfredi (MSSM) and Stratford May (UFLA)

Issues Addressed: Are medical students uniformly and formally exposed to the key basic and translational science aspects of cancer biology? Are they taught the fundamentals by "experts"? Is a lack of adequate training in cancer biology a deficiency in current med. student training?

Rationale for Addressing: Why should medical students be exposed by experts to the core principles of cancer biology fundamentals? Because cancer is the 2nd most frequent medical illness diagnosed in the USA and the #1 cause of death in adults under age 85. This makes cancer a significant health problem for our country/the world and progress in understanding and unraveling its root causes needs to be made in order to move the field forward as rapidly as possible. Further, we question whether cancer biology training is well enough positioned in the medical school curriculum to ensure it receives the resources necessary to adequately teach these principles.

Goals:

- 1- Determine whether all med students are exposed to core cancer biology fundamental principles that are taught by experts. Principles include: genetics, epigenetics, signal transduction and cell cycle and survival pathways affected in onogenic cells and their positioning within the broader scope of understanding that comprises the systems biology approach. In addition they include the role of developing new and novel therapeutic, diagnostic and preventive strategies including drugs, biologics, imaging modalities, etc.
- 2- Potentially be a resource to provide guidance to med school curriculum committees on the current and emerging necessary content to ensure adequate education of med students.
- 3- Potentially serve as a resource to Dean's and administrators of med school education to help ensure that their students are exposed to the cutting edge cancer biology principles. This will help with LCME accreditation of med schools and with GME and RRC Committees who evaluate the education of residents and Fellows in training.

Recommendations:

- 1- Draft a survey instrument that adequately determines the nature of the content taught in medical schools. The Group noted and expressed that the development of such a survey instrument will require input and consultation with many CABTRAC members to ensure inclusivity of experts such that the survey instrument if used will yield informative and useful data.
- 2- Use the survey to query Deans, Associate Deans for Education and Program Directors (of courses taught to med students), as well as the National Board of Medical Examiners and GME/RRC bodies. Then, use these data to evaluate whether the content is sufficient to ensure a consistent outcome product as evidenced by knowledge and testing.
- 3- Use results to author a position paper on recommendations for content taught to med students.

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Report from Faculty Group 3 - CABTRAC Website – program overview development
By Sheridan Wilder (WFU)

(to be posted)

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Cancer Biology Training Consortium 2008 Annual Meeting
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Report from Faculty Group 4 - Engaging Undergraduates
By Jim Broach (Princeton)

(to be posted)

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Business Meeting Minutes

See **CABTRAC Organization Update** PDF document.

Membership Report

Amato Giaccia, Vice President and Treasurer

- Annual Meeting Invitation List
- Membership Payments

Financial Update

Amato Giaccia, Vice President and Treasurer

- First Federal IRS filing due
- First Annual Report to be completed

Election of Scheduled or Vacant Board of Director and Officer Seats

Amato Giaccia, Vice President and Treasurer

<u>Seat</u>	<u>Action</u>	<u>Current</u>	<u>Elected/ReElected</u>
President through October 2009	ELECT	Amato Giaccia (interim)	Amato Giaccia
Treasurer through October 2009	ELECT/RE-ELECT	Amato Giaccia	Jesse Martinez
Secretary through October 2009	ELECT/RE-ELECT	Lynn Matrisian	Lynn Matrisian
Asst Secretary /Treasurer Oct '09	ELECT/RE-ELECT	Sheridan Wilder	Sheridan Wilder
Director through October 2010	ELECT (due to resignation)		Jesse Martinez
Director through October 2011	ELECT/RE-ELECT	Dario Altieri	Steve Akman
Director through October 2011	ELECT/RE-ELECT	James Broach	Barbara Graves
Director through October 2011	ELECT/RE-ELECT	Hung Fan	Susann Brady-Kalnay

2009 Meeting Planning

Amato Giaccia, Vice President and Treasurer

- Location suggestion
- Tampa with Ken Wright/USoFla hosting
- Doug Spitz/Ulowa offered to host 2010 in Iowa
- Keep on Friday-Saturday-Sunday schedule
- Invite graduate students
- Program Format changes from previous year discussed

Tasks for 2008-2009

Amato Giaccia, Vice President and Treasurer

- Letter to Jonathan Wiest, NCI, regarding Training Manuscript (Akman)
- Letter to Jonathan Wiest, NCI, regarding 3-to-1 fellows rule (Mahon)
- Increase usefulness of CABTRAC website for members and trainees (Wilder)
- Campaign to get the word out about what CABTRAC can do for training programs (All)