

## Grayson W. Marshall, April 2002

### Training Programs at UCSF School of Dentistry

**Overview:** The School of Dentistry has a long and enviable record of training programs, largely sponsored by NIH-NIDCR. In fact program officials often point to us as the model in that we have more and varied training grants than any other institution. Currently we have 4 main programs, with a 5<sup>th</sup> pending. We have been centralizing administration under the new Office of Graduate Affairs over the last 2 years, and is now administered by Dean J Greenspan. Recruiting is the most critical challenge.

#### Current Programs include:

1. T35 Summer Training in Research for Dental Students (E. Newbrun)
2. T32 Cellular and Molecular Basis of Oral Biology (C. Damsky)
3. K16 Institutional Dentist-Scientist Program at UCSF (G. Marshall)
4. T32 Comprehensive Oral Health Research Training (COHORT) Program (G. Marshall)
5. K12 Western Oral Research Consortium, (WEORC) (pending, J Greenspan)

#### Review of Grants:

1. The T35, the summer training program for dental students is now in its 22<sup>nd</sup> year. Under Ernie Newbrun we continue to train about 10 dental students/year in a short-term summer experience. The program has been modified in various ways, allowing students from other schools (Howard University), and more advanced students to participate. Many students present their work at national and international meetings. Several current faculty obtained their initial research experience in this program (Y. Kapila, D. Ramos).

However, most students use this opportunity to build their credentials for specialty training.

2. Caroline Damsky's T32 on the Cellular and Molecular Basis of Oral Biology is in its 17<sup>th</sup> year and continues as the backbone program for our graduate efforts. It is reflective of the graduate training evolution and the graduate group in that it has become broader in scope over the years, and now not only offers programs in basic science, but also can support some students interested in biomaterials and epidemiology. We recently appointed one post-doc, Nita Wu, a DSA that is finishing her program combining Oral Medicine and Epi, and two pre-docs to this grant. One recent trainee, Darren Macule, is now the recipient of an individual award (MCSDA) combining endodontics and Oral Biology. In addition, 5 individual DSA students were trained in the PhD portion of this program, including two current faculty members. The individual DSA was the forerunner to the Institutional DSA that was funded in 1996. In the most recent award both post-doctoral scholars and a proto-type faculty scholarly enhancement program were included.

3. Our K16, the UCSF Dentist-Scientist Award Program, was funded in 1996. It allows graduate dentists to pursue an integrated program leading to specialty certification in one of 7 specialties (oral surg, oral med, orthodontics, perio, pediatric dent, public health, prosthodontics) and a PhD in one of three areas (Oral Biology, Bioengineering, Epi). An NIDCR blue-ribbon panel review of all training decided to phase this program out beginning in 2001. Our program will continue during this phase-out through 2004 and should graduate 7 trainees (oral surg/Oral Biol [completed]; oral med/Epi; ortho/Bioeng; ortho/Oral Biol; pub health/Epi; oral med/Oral Biol; pediatric dent/Oral Biol). Although successful at UCSF, nationally there were many unfilled slots within the 9 institutions having such programs. In part this deficiency reflects the large number of vacancies in academic dentistry.

4a. The UCSF Dental Scientist Training Program or integrated DDS/PhD (T32, G. Marshall) was developed in response to NIDCR's decision to promote a MSTP-like program

providing integrated DDS/PhD programs. We were one of three schools awarded the 1996 pilot programs. Over the first 5 years, we enrolled 4 students, 2 dropped out at various stages and 2 continue. The program offers an 8 year program integrating our DDS and one of the 3 PhD options (Oral Biol, Bioeng, Epi @ UCB). This program has become one track of our new, more comprehensive program (COHORT). Recruiting for this program represents the major problem, followed by difficulties in integration of the DDS and PhD programs. However, the latter have been overcome, leaving recruiting as a central issue.

4b. Our new T32 (COHORT) combined several training programs and expanded into new areas. The DSTP and our prior T32 on Craniofacial Development and Anomalies were incorporated into this new program, which represents the current model for NRSA awards. We have four main tracks with various options in this program: DSTP & MSTP programs; short term training programs for dental students, especially pre-DSTPs, as well as faculty; 4 PhD programs (OB, Bioeng, Epi, Bioinformatics) aimed especially at pre-MCSDA candidates, and post-doctoral programs in three varieties: regular, research fellow, and retooling. In the first year of this program we have 2 DSTPs, 3 Post-Docs, 2 short-term faculty trainees and 1 summer dental student. The DSTP track remains the biggest challenge, and the program is administratively complicated.

5. The pending K12 forms a consortium of 5 schools (UCSF, U Wash, UOP, OHSU, U Colorado) aimed at enhancing post-doctoral and young faculty transition into academic dentistry.

**Observations and Challenges:** Our experience with individual and institutional DSA programs version was very good and quite successful. In comparing DSA students and DSTP students to date, they appear to represent different populations that may pursue quite different career paths. Post DDS students pursuing a PhD program often have enough experience to identify career objectives. Integrated DDS-PhD students seem to me to not have the same perspective. (n =4 is small) Thus their research interests are more focused on aspects of dentistry to which they are being exposed in the DDS program. It would be most beneficial to academic dentistry to train excellent candidates from both camps. In part this encourages us to promote (post-DDS) pre-MCSDA PhD students as an important target population.

Recruiting remains our #1 challenge. As a small graduate program it is difficult to gain the visibility necessary to accomplish our goals. This is true of the Oral Biology PhD program, and perhaps is even more critical for the DDS-PhD. The DSTP challenges we face are mainly early recognition and tradition. By tradition I mean that most outstanding students coming to our DDS program have made a decision on career path prior to matriculation. Thus pre-dental school recruiting and making our programs known are critical. The MD-PhD programs have enormous advantages in size and history. We must reach the same populations and stress the potential for our field. We are taking some of the right steps-one of our DSTPs has been regularly recruiting at UC campuses during breaks. We have many ideas, but limited resources; we have meeting regularly to further develop and find implementation strategies.

Our training programs have grown and developed based on opportunities as they have presented themselves. As the scope and complexity has broadened, support efforts have not always been able to meet demands. The Office of Graduate affairs is the key to our efforts to improve our graduate training programs. It has an enormous scope of duties, including recruiting, admissions, appointments, financial tracking, staff support for the entire OB program including seminars and course work, and records for student progress evaluations, graduate tracking. The new reorganization should assist us in meeting each of these areas of responsibility.