IV. STUDENTS

Undergraduate Students

There are three categories of students to be considered--the undergraduates, the graduates and the postdoctorates. The curricula that were discussed above were confined to the undergraduate student courses, covering their evolution during the last twenty-five years of the twentieth century.

The number of undergraduate chemistry majors as measured by the number of B.S. degrees granted to chemistry graduates over these years has not varied greatly. It has been at an average of about 21 chemistry graduates per year, with of low of 10 and a high of 39. There was a low between 1986 and 1990 of 10 to 14 per year; with this exception there seems to be no general trend in these numbers over the 25-year period; there is no obvious explanation for these few low years.

When undergraduates apply for admission to Stanford, they do not declare an intention of their majors; their admission is determined by their overall ratings that presumably do not include any consideration of their areas of study. There are no quotas for specific areas, for instance for Engineering, for Music, for Physics, for Premedical studies etc. As stated under the discussion of curricula, however it seems that up to 50% or more of the entering freshmen in recent years have been taking chemistry courses, largely as a requirement for majoring in Biology with an ultimate goal of applying to medical school for a career in medicine. There is no specifically designated premedical major at Stanford. Of the large number of students enrolling in the beginning chemistry courses (530 in 1999), only a few (about 21, on average in the 1990s) became chemistry majors. Since Stanford in the recent years has admitted only one of about 8 to 10 applicants to the freshman class, we surely should be getting the academically best of a large applicant pool that is already highly self-selected by the applicants themselves.

An interesting trend in the make-up of the Stanford undergraduate population is the increasingly large number of non-Caucasian students, who accounted for almost 50% of the entering freshman class in 1999. They may be either United States- or foreign-born. In 1975, of 30 chemistry B.S. degree graduates, 5 (17%) had Asian surnames, so

this aspect is not completely new. Even in 1902 and 1903, one of the 12-14 B.S. chemists graduating had a Japanese surname.

Although not required of a chemistry major, undergraduate research (Chem 110, Directed Instruction) is undertaken by most majors. The student usually is assigned a research problem, integrated in a professor's graduate research group and treated almost as a beginning graduate student.

Graduate Students

In contrast to the situation with undergraduate admissions, chemistry has almost complete control of the make-up of the entering graduate class each year. There is keen competition between the major institutions for the best and brightest chemistry B.S. graduates each year. In 1989, when Prof. John Ross was chairman and Profs. Wender and Trost had joined the faculty, the importance of attracting more graduate students became apparent. The Department published for the first time a brochure, Chemistry at Stanford, which was sent to every student who requested information on admission to Stanford Graduate School in Chemistry. This brochure detailed graduate studies in Chemistry at Stanford and contained attractive colored pictures of the campus, of graduate students working in the laboratories and write-ups by each professor on the principal research interests and the types of thesis problems his or her students were undertaking.

An Office of Student Services was created within the Chemistry Department in 1995 under the management of Sharon Minton, later by Roger Kuhn. This office was responsible for putting out the brochure annually as well as a special Handbook for Chemistry Department Graduate Students and administering the graduate admission processes and many related activities such as the campus visits by prospective graduate students. At about the same time (1999) the chemistry graduate students elected a Student Affairs Committee with four student members, one staff representative (Sharon Brauman) and one faculty representative (Prof. Chris Chidsey). The graduate students now put out a monthly publication of four to six pages, named The Free Radical, which carries news and articles of special interest to their group.

A communication problem, over which we have little control, is a result of the physical distribution of our graduate and postdoctoral students. Thus in the spring of 2000 we had a total of a little more than 300 graduate and postdoctoral students in residence,

located in five chemistry buildings and in the buildings of four other Departments (usually working for one of the Chemistry Professors by Courtesy).

CHEMISTRY		OTHER DEPTS.	
S.G. Mudd Building	140	Biology	6
Keck Building	65	Medical School	5
Stauffer I	33	SLAC	1
Stauffer II	43		
Organic Building	7		

The efforts at recruiting more and better graduate students have been increased by formalizing the visits to the campus by prospective students. When students inquire about graduate work, they are sent a copy of the brochure and invited to visit the campus on specific days in the late winter or early spring quarter. They are asked to select professors they would like to talk with and interviews are arranged. They are hosted at lunch and taken on tours of the laboratories and campus by current graduate students. These visits are coordinated with visits by the same students to the Chemistry Department at the Univ. of California, Berkeley.

There has been a significant increase in the number of Stanford Chemistry graduate students in the 1990s; from 1980 to 1985 the number of chemistry Ph.D. graduates averaged about 18 per year, with a low of 15 and a high of 20, compared with an average of 33 per year from 1990 to 1999 with a low of 24 and a high of 37. Since the average time required for the Ph.D. degree is between 4 and 5 years, this means that on the average in this latter period, the number of Ph.D. graduate students in residence in any one year was about 150 compared to about 95 for the years in the earlier period (1980-85). An important trend is the significant increase in the number of women in the Ph. D. program. In the years 1975-79 there were 91 Ph.D. chemistry graduates, 9 (10%) of which were women; in 1995-98, there were 111 Ph. D. degrees granted, 24 (22%) to women.