Testimony by Monica Poindexter
Before the House Science Committee
Subcommittee on Research and Science Education
June 19, 2007

Thank you, Mr. Chairman, and members of the Subcommittee for inviting me to testify before you today. My name is Monica Poindexter and I am the Associate Director for Corporate Diversity at Genentech, Inc. One of my responsibilities at Genentech has been to coordinate our efforts with local community colleges to develop programs to train students to work in the biotechnology industry.

Genentech, which is based in South San Francisco, California, is considered the founder of the biotechnology industry. Genentech was founded 31 years ago with the goal of developing a new generation of therapeutics created from genetically engineered copies of naturally occurring molecules important in human health and disease. Within a few short years, Genentech scientists proved it was possible to make medicines by splicing genes into fast-growing bacteria that produced therapeutic proteins.

Today, Genentech continues to use genetic engineering techniques and advanced technologies to develop medicines that address significant unmet needs. Genentech is among the world's leading biotechnology companies, with 14 products on the market for serious or life-threatening medical conditions, over 50 projects in the pipeline and more than 10,000 employees.

The key to our success has been our commitment to hire the most qualified workers available and provide an environment for them to succeed. Our goal is to recruit and retain people who are the best at what they do—people who are motivated to achieve results, have high standards of quality and integrity, possess a flexible, entrepreneurial spirit, are committed to improving human health, and want to develop to their full potential.

A particular focus of our hiring in recent years has been in the area of product manufacturing. When the Food and Drug Administration approves a new drug we face the task of quickly scaling up a technical workforce capable of manufacturing the product to the precise standards of the FDA. Traditionally we have sought to hire these employees from 4-year college institutions, but increasingly we have seen the benefit of working with local community colleges to develop graduates of 2-year programs who have the skills necessary to succeed in our industry.

Our experience with 2-year colleges has proven they can be an important source for highly-motivated, well-trained technical workers. Often these students have some workplace experience before they enroll in a community college. Their motivation for attending school is to develop the skills they need to qualify for the types of jobs we offer. And the community college setting is ideally suited to teach these students how to work in a highly regulated technical environment like the biotechnology industry.

In the mid-1990's, Genentech began to work with Solano Community College, located in Vacaville, California, to design a biotechnology certificate program to provide technical education to students interested in careers in biotechnology. At the time, we had just committed to build the largest biotech manufacturing facility for the large-scale production of pharmaceutical proteins in the world. We knew we were going to need to hire hundreds of qualified individuals to operate our new facility.

The program began when a professor on sabbatical from Solano Community College spent 6 months working full-time at Genentech to gain an understanding of our manufacturing processes. He then spent part of the next 6 months working with more than 60 Genentech employees to design a bio-manufacturing curriculum to train students to work at Genentech and other biotechnology manufacturing facilities in the area.

At the time, no school in the country was providing bio-manufacturing training so the development of this program was the creation of a new academic discipline. The program teaches students the basics of chemistry and biology through a combination of lectures and laboratory work. In addition to the science of biotechnology, students learn about the regulatory environment in which we work. They learn about the structure and authority of the Food and Drug Administration, this history of key FDA laws, and how those laws led to the development of good manufacturing processes.

One of the best aspects of this program is that students experience what it is really like to work in a bio-manufacturing facility. Working in a laboratory environment, students must wear protective gowns, work in teams, batch records, and perform other tasks just as they would in a real manufacturing setting. They even participate in an exercise in which they keep the lab running around the clock for four straight days by working in shifts. Much of their work is done with equipment donated by Genentech.

By the end of this program, students know whether they have the interest and the skills to seek a career in biotech manufacturing. Roughly 60 of the 250 students who have completed the program at Solano Community College have been hired by Genentech and many others are now employed by other biotech companies in the area.

The success of this program led to the creation of a similar effort at Miri Costa Community College in Oceanside, California, where we have another manufacturing facility. The curriculum has also been replicated at other community colleges across the country.

In 2002 we began a similar effort with a community college near our headquarters in San Mateo County, California. This program was inspired in part by the tragedy of September 11, 2001. The airline industry struggled following 9/11 and many of the United Airlines mechanics at San Francisco Airport were forced to seek new employment. We recognized that the mechanics possessed skills that with some training could be transferable to the biotechnology industry.

We partnered with the Center for Workforce Development at Skyline Community College, the San Mateo County Workforce Investment Board, and the San Mateo County Labor Council to develop curriculum for a bio-manufacturing certificate program.

The program was designed to prepare students who possess transferable skills from other occupations for entry-level positions in the biotech industry. Course instruction includes basic skills in biology, bio-manufacturing, chemistry, and an introduction to biotechnology careers. The course was designed through a joint effort by Skyline College, San Mateo Workforce and Development, and Genentech.

The bio-manufacturing career pathway has 5 key phases leading to employment at wages of $35,000 per year and above:

1. The program begins with an outreach and assessment effort to introduce industry opportunities to the students, gauge the student's level of interest, screen for basic English and math skills, and determine the candidates ability to succeed in the program.

2. Phase 2 is a three-month bridge program to introduce students to the industry, provide intensive training in English, math and computer skills, and offer needed counseling and support.

3. Next is a three-month college credited course providing needed skills training including an introduction to applied chemistry and biology, applied math, and lab skills.

4. Program graduates then have the opportunity to interview for a 90-day paid try-out employment period at wages of $12-$15 per hour.

5. Finally, participants are assisted in finding full time employment.

In addition to providing training to the students, the program provides opportunities for continuing education for the faculty. The Faculty Rotation Program allows professors to gain an industry understanding of the core Product Operations functions that are critical to the manufacturing of Genentech products. It also provides them the opportunity to update their skills, curriculum and teaching styles to meet the real-time demands of industry in the classroom.

The faculty program takes place over a six to eight month period and involves five rotation assignments within our Products Operations organization, including fermentation, recovery, lab services, media prep and filling. The rotations provide hands on experience and interaction with team members and management.

Following the success of the program at Skyline Community College, we worked with another local school, Ohlone Community College in Fremont, California, to design a similar program. That program has been in operation since 2004.

Since creation of the bio-manufacturing certificate program at Skyline College, and the addition of the program at Ohlone College, 350 students have successfully completed the program and received a certificate. More than 90 percent of the students applied for internships at Genentech and 121 were hired as interns. In addition, 6 graduates were directly hired as full-time employees at Genentech and 46 of the interns have been converted to full-time employees.

Through the programs in which we are involved, we are able to help shape the curriculum to ensure that graduates have the skills we value in an employee. These programs not only set students on a successful career path but they allow companies like ours to increase the base of qualified workers from which we can hire.

The education of these students does not end when they are hired at Genentech. As with all employees of our company, we provide opportunities for these workers to grow their skills and develop their careers. Each year during our annual manufacturing shut-down we encourage our workers to take courses to refresh their technical skills and build their professional development. We also offer cross-training opportunities, where manufacturing employees do rotations in different jobs to become more well-rounded and gain greater understanding of entire manufacturing process.

Biotechnology is a high-growth, high-wage industry that provides opportunity for people to build good, long-lasting careers. It is a dynamic industry that is constantly in need of workers trained in specific technical skills. Our experience has shown that community colleges can be an important pipeline for the development of those workers.

Thank you for the opportunity to testify before you today. I look forward to answering any questions you may have.