

Forty years with math at SFSU

by James T. Smith

I first came to math at SFSU as a graduate student in 1962, and became Assistant Professor in 1969. *What's changed the most since then?* Me—keep that in mind as you read on.

Not the students! I see the same qualities in them now that attracted people like me to SFSU back then. Yes, we do more remediation now, but that can be attributed as well to changes in societal expectations.

Societal changes affected us even more through the collapse in the 1970s of the job market for high-school math teachers and the resulting disappearance of math majors. Its onset was easily traced to the low age of the teachers then serving; its continuation seems due in part to societal indecision about the very mission of the schools.

The SFSU administration? I think its professionalism has improved since 1972, particularly in planning for and managing resources.

Computer science? This arose in the Department then departed in the years around 1980. A huge change for me personally, it had less effect on those who remained working wholly in mathematics after the new discipline split off.

Mathematics itself has changed somewhat, particularly in response to the new ability to compute, and the need to do it efficiently.

The way we communicate mathematics has changed drastically, at least for some of us. I'll return to that.

Our faculty? Our view of mathematics has changed less. But our group has changed in a perhaps surprising way. Our faculty grew rapidly until Computer Science split off after 1982. There was a sudden decline, gradual rebound, then oscillation due to retirement and replacement. One thing hasn't changed: we've never been representative of the population of San Francisco. The makeup of our hiring pool has prevented that.

What impresses me are major changes in faculty activity. I just reflected on the regular faculty present around 1962, and what I, as a graduate student, could then discern about their professional activity. I've carried out a similar analysis for every decade since then, trying always to record what a graduate student would have

seen at the time. I counted faculty, then tallied professional non-teaching activity that seems to have resulted soon in publication or proprietary results. Depending on your point of view you can regard my very approximate subjective tallies as promising or alarming:

Year	1962	1972	1982	1992	2002
# of faculty	15	20	25	23	19
% with visible outside activity	56%	15%	28%	65%	84%

(There was a major faculty turnover during the 1960s.)

The pattern shown in these percentages corresponds to one in our master's program. After its decline and long recovery, we're back up to 1962 levels in enrollments, probably equivalent in breadth, and perhaps a bit greater in depth of coverage.

Communicating? Moving around 1972 to one of the best-designed academic buildings I've ever known greatly enhanced our ability to present mathematics. Another revolution, after 1982, was the increasing, now universal, availability of personal computers. I can—unfortunately *must*—now do virtually all publication and computation details *myself* for classes and professional writing, and can demonstrate sophisticated computations in class. A typical math faculty applicant is now more familiar with computer usage than the typical computer-science applicant was around 1982. (One of *those* asked me at his interview, “What’s a floppy disk?”) The thermofax, mimeograph, and even my personal xerox copier have yielded to dissemination via the Internet. In 1997, by our Chair's blunt fiat, we switched from hardcopy memos entirely to e-mail. Sometime in the 1980s, the administration had painlessly instituted voice mail. And around 1975, a new faculty member threatened to resign unless I got him one of those new push-button phones!