Aftermath

Center for Science and Mathematics Education
by Hugo Rossi

In 2007 the two newly appointed Deans, Sokolsky (Science) and Hardman (Education) met with Senior Vice President Pershing to discuss strategies for a Math and Science Initiative that will significantly impact the University's production of graduates, highly qualified in science-related disciplines, by addressing issues of recruitment and retention, and high quality education, K-16. They decided to create a Center for Science and Math Education, to which the Senior Vice President allocated five new positions, three in the College of Science and two in the College of Education. In the following year, a search was initiated for a Director of the Center, and Hugo Rossi, recently retired and fussing with his memoirs, was asked to chair a task force to craft a description of the Center.

The search proved fruitless, and a contributing factor appeared to be the too-hypothetical existence of the Center as a central reason. In the meantime, Rossi, with nothing better to do, wrote several proposals for funding of projects related to the mission of the Center. He proposed that, if these proposals are awarded, they could form the nucleus of a beginning of the Center; as a result Rossi was appointed as acting Director of the Center, charged with the search for his successor, and establishing at least provisional status for the Center. In this way, the Center was so established by the Board of Regents in early Summer 2009, and in the meantime funding for the following programs was awarded.

Collaborative Program of Professional Development. In Summer 2009 the Math Department, in collaboration with the Department of Teaching and Learning and the Jordan, Canyons and Granite School Districts started a two year course of study for eighteen secondary school teachers from these districts, leading to a Master of Science in Mathematics, through the College's Master of Science for Secondary School Teachers (MSSST) program. The program recruited faculty from high-need schools and the integrated content/pedagogical courses address needs specific to those teacher contexts. In this way, the program will provide the participating school districts with a cohort of well-trained faculty, in both content and pedagogy, who can serve as teacher-leaders in their own environments.

Support and Mentoring in an Alternative Route to Teaching (SMART). The goal of this project (in collaboration with the USU departments of math and distance learning), is to increase the number of quality teachers statewide in Utah by attracting professionals with strong content knowledge and providing them with the support and mentoring to succeed in the transition to teaching. Participants will receive support equivalent to that of a University graduate assistant for one year, while they take the basic courses necessary for licensure, spending time in the classroom observing and working with a mentor. Fellows then enter the profession, having contracted to remain in the schools for an additional four years. Funding is from the NSF Noyce Fellowship program and Math for America, a non-profit based in New York, We hope to attract local funds in order to extend this to the sciences and continue this program beyond that of the first two Noyce cohorts.

Graeme Milton Elected SIAM Fellow
by David Dobson

Distinguished Professor Graeme Milton has been elected to the inaugural 2009 class of SIAM Fellows. The announcement was made May 1, 2009, and the Fellows were recognized during the 2009 SIAM Annual Meeting in Denver. SIAM (Society for Industrial and Applied Mathematics) is the primary professional society for applied mathematicians worldwide, with over 12,000 individual members. The SIAM Fellows

program was established to honor members who are recognized by their peers as distinguished for their contributions to the discipline. To be selected as a Fellow in the first year in which the award is established is a particular honor. Professor Milton is joined by many of the top applied mathematicians in the world in receiving this honor. Let's all congratulate Graeme!

Sigma Chi Distinguished Teacher Awards

Three of our instructors have received the Distinguished Teaching Award from the Sigma Chi Fraternity. Dennis Allison, Kelly MacArthur, and Michael van Opstall were among 13 awardees selected from over 50 nominees for their dedication to teaching and for helping Sigma Chi members clearly understand important mathematical concepts. They were honored at an open house at the Sigma Chi Fraternity House. Way to go!

Why Math?

Collected from faculty and graduate students and compiled by Kelly MacArthur. She presented this at a workshop entitled "Why Mathematics" at a university-wide advisor's conference earlier this year, in hopes of giving advisors from other departments an answer to the question "Why do I have to take a math class?"

• Many students understand the merit of cross-training at a gymnasium. They willingly endure the tedium of repetitive exercises, for isolated muscle groups, in order to improve overall fitness. With the exception of rare Olympians, nobody lifts weights to get better at lifting weights. People lift weights to prepare for the strain of lifting groceries, infants or shovels of snow. Most people will not use calculus every day but learning calculus contributes to overall mental agility. A proper education should provide intellectual cross-training.

• A quality of taking a math class is that successful students typically figure out that methodical, well-organized approaches to problem solving are much more effective than random, haphazard attempts. This is a skill that translates well in anyone's life.

• Taking a math class is simply part of a well-rounded education, like taking a foreign language or art class.

• Mathematics exercises the brain, making students stronger thinkers in general. Math courses present a series of puzzles to solve, basically, with the purpose of strengthening analytical thinking skills.

• Students possessing the math skills found in our QA courses will be promoted more quickly in most jobs, and avoid being prey for financial scams. They'll also have the skills to make informed decisions as voters on significant issues. Navigating the 21st century without these basic math skills is like navigating the 20th century while being illiterate.

• From a math graduate student: "On my first co-op job, I got hired to work at a bank helping the company implement/transition over to some new software that is used to evaluate stocks, bonds, etc. I asked my boss why he hired mathematicians for the job when there wasn't any "math" involved. 'Wouldn't it be better to hire someone with a strong business/finance background instead of someone from math who doesn't know much about business?' I asked. He told me that he hires math students because of how they're trained to think, not what they know about the business world. Math students are trained how to take apart a big problem, troubleshoot those pieces, and then troubleshoot putting the pieces back together again.