Aftermath

Message from the Chair

by Aaron Bertram

Back in July, Graeme gave me a copy of John Conway's book "On Being a Department Head: A Personal View." The book was full of useful advice that has come in quite handy over the year. But in one of the last chapters, Conway asserted that a chair must not under any circumstances show up for work in shorts. Of course I was wearing shorts and sitting in the chair's office at the time, and that, my friends, turned out to be a pretty prophetic moment. This year has been quite a challenge. The turnover in our senior office staff and the budget holdbacks from the administration added a little extra stress to the usual challenges of the first year on the job. Everyone has been incredibly supportive and we pulled through just fine, but I still had quite a few of those "wearing shorts" moments where I wished for a bit more experience.

Whatever the difficulties of the job, it is a true privilege to be able to represent the Mathematics Department. Let me brag a little about our faculty's accomplishments. In a climate of global cutbacks in grant funding, we had some great successes this year. Topping the list, of course, is the new five-year VIGRE grant that was won with a true collaborative effort from virtually every member of the department. Other large grants were awarded to our math biology and materials groups, as well as (informally so far) to our representation theorists and topologists. In terms of individual honors, Christopher Hacon won an AMS Centennial Fellowship, marking the second year in a row that this has gone to an algebraic geometer at Utah (YP Lee was the winner last year), and Gordan Savin won an ASUU student's choice teaching award (the only such award in the entire College of Science!) The recent US News report, ranking our graduate program highest among all the programs at the University of Utah (Chronicle, April 6) was just one more indication of the regard that the nationwide mathematics community has for our department.

Getting recognition from the University is a little bit more of a challenge, and for this I appeal to my senior colleagues on the faculty for help. Quite frankly, we need more mathematicians on important University committees. I am thinking especially of the undergraduate council, the University teaching committee, the University promotion and tenure advisory committee, the University research committee, and the graduate council. Without more mathematicians on those committees to point out our accomplishments (and to explain our work!) we are at a real disadvantage when it comes to University politics and the apportionment of resources and awards.

Congratulations on a job well done to all our undergraduates who are finishing this year and who worked on REU projects, to all our Ph.D. and Master's degree recipients, to our departing assistant professors, and especially to Anne Roberts, Jim Carlson and Steve Gersten in their retirement from the department. Thank you to Annetta and Nancy for all your years of incredible service. And thanks to all of you: staff, faculty and students, for your contributions, too numerous to list (even for a mathematician) over the past year!

Student Choice Award

Gordan Savin has received the ASUU Student's Choice Award. This award is a unique honor in that it is completed student driven. Only six of these awards were given university-wide this year. Andrew Nelson, who nominated Savin, said, "In the two years that I've known him, Dr. Savin has been instrumental in helping myself and other students navigate the landscape of modern mathematics. He is profoundly adept at providing context to the problems and theorems we encounter, affording us a rare and valuable perspective that undergraduates usually do not get to see or develop until graduate school." Congratulations to Gordan on a job very well done!

VIGRE2

by David Dobson and Kathleen Moore

Our department has been supported for the past five years by a "Vertical Integration of Research and Education" (VIGRE) grant from the National Science Foundation. This award, totaling nearly $3.8 million, has provided funding for numerous programs within the department, along with direct support for students (both graduate and undergraduate) and postdocs. These prestigious grants are awarded to only a few departments around the country each year. Our program has been particularly successful, due to great innovation and careful planning by the original VIGRE steering committee, and the enthusiastic support of its participants.

Our department will be awarded another VIGRE grant, to begin next fall. This new award follows a great deal of effort and preparation by the VIGRE2 steering committee: Fred Adler, Aaron Bertram, Elena Cherkaev, David Dobson, Ken Golden, Kathleen Moore, Gordan Savin, Klaus Schmitt, Peter Trapa, and Jingyi Zhu. This committee spent many hours brainstorming program ideas, collecting data, writing the proposal, and preparing for the site visit. The steering committee would like to thank everyone who participated in the site visit, as this was an extremely important factor in the success of the proposal.

The new grant will continue or expand many of our existing programs: REUs, Math Circle, the Summer High School Program, postdoctoral and graduate fellowships, the ACCESS program, and graduate mini-courses. The majority of the requested $4.4 million budget (approximately, over five years) goes directly to fund students and postdocs. The grant is structured to work cooperatively with the IGERT and RTG grants in Math Biology, but is designed to benefit all members of the department.

New VIGRE2 opportunities will include a partnership with the MESA/STEP program (Mathematics, Engineering, Science Achievement/Science Technology Engineering Programs), a dual-postdoctoral fellow program to help increase diversity, development of undergraduate major tracks, changes in the first-year graduate curriculum to introduce mathematical survival skills and research areas, an REU course to provide a group research experience during the academic year, and an undergraduate research conference in 2008.

Previously, only five other institutions have received two consecutive VIGRE awards: North Carolina State, UCLA, University of Chicago, University of Washington, and University of Wisconsin-Madison.

Sadly (or perhaps not for those who have committed so much time to these programs!), NSF has ruled out the possibility of a third award. Nevertheless, the department will continue in a much stronger position at the conclusion of VIGRE2, due to increased funding commitments from the University of Utah, and the momentum and structural improvements generated by ten years of activity under the VIGRE programs.

Faculty Retirements

Three faculty have announced their retirement this year, Jim Carlson, Steve Gersten, and Anne Roberts.

Jim Carlson joined our faculty in 1975 as an Assistant Professor. He received his Ph.D. from Princeton University, and had been Assistant Professor at Stanford and Brandeis prior to coming to Utah. Jim served as Department Chair from 1995 until 2002. During his chairmanship, he played a major role in bringing about of the remodeling of LCB, the construction of the Rushing Mathematics center and funding the Warnock Chair. Since 2002, Jim has been President of the Clay Mathematics Institute in Boston, and plans to continue in that capacity.

 Jim's research has been in complex and algebraic geometry. Two of Jim's main research interests are in Variations of Hodge structures and the geometry of moduli spaces of complex manifolds. Utah has been a fruitful place for Jim: he collaborated for fourteen articles with Domingo Toledo. Jim directed three Ph.D. dissertations at Utah and coauthored/coedited five books. Jim was very involved in teaching. For example, from 2000-2005, he directed and taught the department's Summer Mathematics Program for High School Students. He also ran a VIGRE summer REU in knot theory in 2001 and a VIGRE summer mini-course on complex hyperbolic geometry in 2002. Through Jim's efforts, MAPLE labs are now an integral part of our linear algebra and differential equations courses. He also helped develop

our highly innovative sophomore course, "Introduction to Scientific Computing using C."

Steve Gersten joined our faculty as professor in 1975. He had received his Ph.D. at Cambridge University and was an instructor at Princeton University, an Associate Professor at Rice University and a Professor at University of Illinois at Champaign-Urbana before coming to Utah.
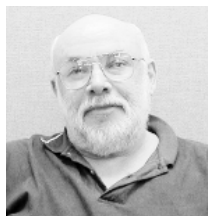
In earlier work, Steve became renown as a specialist in algebraic K-theory. Later, he became one of the world's leading authorities in Geometric Group Theory which he is actively studying. In his later work, he has been concerned with relating very geometric notions about infinite groups such as filling radius, isoperimetric inequalities and curvature to analytic notions such as L^1 cohomology to algebraic notions such as presentability and small cancellation theory. Steve has graduated ten Ph.D. students (six from Utah) and initiated and organized the long-running Max Dehn Seminar, a research seminar about infinite groups.

Anne Roberts joined the faculty as Adjunct Assistant Professor in 1976. She received her Ph.D. at McGill University, and worked as an instructor at State College at Boston, Professor at Dawson College and Assistant Professor at Emmanuel College before coming to Utah. She has also held positions in Westminster College and in the Department of Management.

Anne wrote her thesis about subharmonic functions but she has been mainly interested in Mathematics Education. She has studied how teachers in colleges and elementary/secondary teachers may collaborate to improve the quality of the mathematics program for students and training of teachers. She coordinated the research project, ran and taught in a month long summer workshop Elementary Mathematics through Teacher Partnerships in 1992-1996. She has chaired three masters candidates in the College of Science Masters Program for Secondary School Teachers of Mathematics and Science. Anne has been a mentor for the college's ACCESS program for first year women undergraduate students. She chaired the Mathematics Education

Committee 2001-2005 and can be credited with building up our math ed team. She also worked on a film series on trigonometry (19 videos) for the department. Anne has been recognized for her teaching by winning the MAA Intermountain Section Award for Distinguished College or University Teaching of Mathematics in 2004, the ASUU Student Choice Award in 2003 and the departmental Teaching Award in 2000. Not only has she taught Mathematics Education courses, she is also a popular teacher of statistics courses. Anne will teach another course for us next year.

Degrees Awarded

This year, approximately 50 undergraduate math majors will receive a baccalaureate degree. A total of 19 Masters degrees will be awarded. Students receiving the Ph.D. in 2005-2006 are Renate Caspers, Nathan Albin, Kenneth Chu, Matt Clay, Young-Seon Lee, Frank Lynch, Elijah Newren, Andrew Oster, and Kazuma Shimomoto. Congrats to all of our graduates!

Faculty Changes

There are several faculty who will not be here next year. In addition to the retirements already mentioned, Nick Korevaar and Andrejs Treibergs will be on sabbatical next year. We also have three post-docs who are moving on: Daniele Arcara will be teaching at St. Vincent College in Latrobe, PA, Bob Bell has accepted a tenure-track position at Michigan State University (a joint appointment with the Department of Mathematics and the Lyman Briggs School of Science), and Sandra Spiroff is heading to Seattle University. They will all be missed and we wish them the best in their future careers.

Math Career Day

Mathematics Career Day was held Thursday, April 6 and was organized by the USAC. Stan Inman, Director of Career Services, spoke about the services they have available for students and how best to use them. He was followed by Kurt Dobson, CEO of Starbridge Technologies, Stephen Dodd of the U.S. Army, William Leung, Senior Actuary for Beneficial Life, and Tom Robbins of Idaho Technologies. They talked about what kinds of opportunities are available for math majors and how they got to where they are today. After their presentations the guest speakers visited with students while everyone enjoyed refreshments.

Summer VIGRE Activities

by Kathleen Moore

This summer will not be a quiet time for our department – there will be several VIGRE-funded activities going on.

A mini-course on SL(2,R) will be held from May 21 through June 3. More than 40 outside graduate students and many local graduate students will participate. It is funded jointly by the old VIGRE grant and MSRI. Lectures will be delivered by the three organizers: Bill Casselman (British Columbia), Dragan Milicic, and Peter Trapa.

A mini-course on Stochastic Partial Differential Equations will be held May 8–19, organized by Davar Khoshnevisan and Firas Rassoul-Agha. Six outside graduate students and many local graduate students will participate. Outside speakers are Robert C. Dalang (Ecole Polytechnique Fédérale de Lausanne), An Le (Utah State University), Carl Mueller (University of Rochester), David Nualart (Member of Barcelona's Academy of Science; Universities of Barcelona & Kansas), Boris Rozovskii (University of Southern California), and Yimin Xiao (Michigan State University).

This year's summer group REU program is on the Geometry of Mobius Transformations and will run June 4–23. Jason Behrstock and Dan Margalit are the organizers. Participants are from Barnard College, Columbia University Montana State University, Ohio Wesleyan University, UC Berkeley, University of Rochester, and Wesleyan University.

The Summer Mathematics Program for High School Students will be June 12–29 and will be directed by Christopher Hacon with assistance from Teresa Cawley and Matt Clay. The program focuses on number theory, but also includes seminars on a variety of topics given by department faculty members.