

Department of Applied Mathematics (APPM) NEWS: 2013–2014

On July 1, 2012 Mark Ablowitz took over the Chair's position from Jim Curry. Ablowitz was Director/Chair of the Program/Department of Applied Mathematics from 1989-2000. Near the beginning of ay 2013-2014 Marty Fentress took over as full time Program Manager of APPM. Prior to Mary Fentress, Vicky Nelson was interim Program Manager; Vicky replaced Marcia Flynt near the end of the calendar year 2012. Over the past two years new staff have been hired; all indications are that the Department staff have been functioning well.

Some highlights of the Department 2013-2014:

- Professor Steve McCormick retired at the end of calendar year 2013. Professor McCormick is a world leader in computational/applied mathematics. He was a member of the Department for over 20 years. Steve will be sorely missed. We wish him great happiness in his retirement.
- The Department recruited two outstanding faculty for 2014-15. They are Mark Hoefer in nonlinear math and Stephen Becker in computational math. Hoefer is an expert in nonlinear waves with emphasis in dispersive shock waves, nonlinear magnetics and fluids. He comes to APPM from North Carolina State University. Becker is an expert in computational optimization with applications to large data sets. He comes to APPM from the analytics group at IBM Research in Yorktown Heights. They both were the Department's first choice in the two searches carried out.
- APPM has 17 tenured-tenure track (TTT) faculty (18 TTT in 2014-15), 2 senior instructors, 4 full time instructors, two postdoctoral research/instructors, numerous lecturers, 75 graduate students, 150 undergraduates majors, teaches about 20,000SCH and has obtained \$4.1m in research support (this is a very large number for a mathematical sciences unit).
- The Department's teaching efforts have increased substantially over the past few years: about 30% increase since 2009-10 and about 15% more than 2012-13. In fall 2013 in response to requests from the College of Engineering, the Department began teaching a new course: Pre-Calculus for Engineers. This is a new course for APPM and the first time APPM has taught courses below the level of calculus. APPM instructors have helped the department greatly in this effort. Early indications are that this has been very successful. Engineering wishes to significantly increase its enrollment; one way to do this is to admit more internal university transfers. But this often means that the transfer students require more math preparation for their Engineering classes. APPM has 'stepped up'. It has meant a significant effort for the Department and faculty.
- The Department will need more faculty. Proposals to add an additional faculty member will be made in each of the years: 2015-16, 2016-17, 2017-2018.
- The Department has offices in four different locations: Engineering Center, Math Building, Stadium, Grandview Temporary building 97. These offices are widely separated; at least a 15 minute walk from Engineering to Grandview. It is critical for APPM to obtain contiguous space. Discussions between the Deans of Arts and Sciences and Engineering have identified the Fleming building as a possibility. The Department believes that within the next three years, either APPM should move to Fleming or an MOU between the Dean's of Arts and Sciences and Engineering should be signed giving contiguous space to APPM in the Engineering Center.

The Department's students and faculty have been extremely successful in obtaining **honors and awards**. Some of them are listed below.

APPM Honors/Awards/Notable Achievements

- Undergraduate-BS/MS student Stehen Kissler, awarded a Gates Foundation fellowship. Kissler's Gates Scholarship will provide full funding for three years at Cambridge University;
- Undergraduate BS student Brennan Coffey, awarded a Goldwater Scholarship which provides support for tuition, fees, books, and room and board;
- Graduate Student Jay Stotsky, awarded a four year DOE Computational Science Fellowship;
- Graduate student Eric Knightley, awarded a three year NSF Graduate Fellowship;
- Graduate student Ashar Ali, awarded a three year NASA Earth and Space Science Fellowship;
- Dr. Yolanda Hagar has won a postdoctoral fellowship from the American Cancer Society;
- Pre-Graduate student Michelle Maiden, awarded a CU Chancellor Fellowship;
- Associate Chair Dr. Anne Dougherty, receives Burton W. Jones Distinguished Teaching Award from Rocky Mountain Section of the Math Association of America
- Associate Chair Dr. Anne Dougherty, receives Marinus Smith Award from CU-Parents Association
- Associate Professor Per-Gunnar Martinsson, selected to be the principal lecturer for a Conference Board of Mathematical Sciences (CBMS)/NSF conference to be held at Dartmouth College in June 2014. The conference is dedicated to the body of work Martinsson has developed.
- Professor Bengt Fornberg receives BFA Excellence Award for Research
- Professor Bengt Fornberg named as fellow of Society of Industrial and Applied Mathematics (SIAM)
- APPM now has 4 SIAM fellows: Fornberg, McCormick, Manteuffel, Ablowitz; this is remarkable given the small size of the unit
- APPM has two American Mathematical Society (AMS) Fellows: Beylkin, Ablowitz
- APPM has three highly cited researchers in Mathematics – as determined by ISI: G. Beylkin, T. Manteuffel, M. Ablowitz
- Research by Professor Mark Ablowitz and Ph.D. student Douglas Baldwin (Physical Review, 2012) featured in SIAM News Summer 2013