Greetings!

We would like to take this opportunity to tell you how our department is doing. We are happy to report our department now has over 200 students and we have also brought on new faculty members to meet the increase, along with an increased emphasis to promote student success.

New Professors

We are very excited to have a new professor joining us in the computer science department, Dr. Lisa Rebenitsch. She is currently teaching Analysis of Algorithms and Programming Languages. Dr. Rebenitsch completed her dissertation on motion sickness in virtual reality and how to minimize its effects so VR is more accessible to everyone. Some of you may recognize Lisa as an alumna of our program (CSC 2009) that later finished her PhD from Michigan State University. Her background and experience in Computer Science will be a great asset for the department and students in the program.

We are also fortunate to have two more mathematics faculty join our department this year. Roben Rudy-Hinker was teaching for us on a part-time basis last year and has joined our department full-time this year. Another full-time hire is Tristin Lehmann who joined us from her full-time position with South Dakota State University. Roben and Tristin are also alumni of the university and have made immediate contributions to the department.

The addition of the new mathematics faculty is part of a student success initiative that is a pilot project being funded by the state legislature. It is not a big surprise to learn that a large factor to student success in science and engineering majors is success in mathematics. Our pilot project is investing additional resources to serve our students by lowering class sizes and also using innovative curriculum designed to strengthen fundamental skills and improve retention. The department has been utilizing a system provided by Pearson Publishing, which is called MyMathTest. This system gives students free access to review materials and a diagnostic exam to help students review and prepare for the class before they start the fall semester. During the fall 2015 semester we observed student success rates go up across the board in our introductory courses and during the spring 2016 semester we saw dramatic improvement in student success for students repeating a class from the previous fall. The funding for the pilot will enable us to expand and strengthen our efforts to help more of our students become a helluva engineer.
Department Awards, Research and Achievements

We are proud to announce that the Tau Beta Pi honor society has awarded Dr. Toni Logar the National MacDonald Mentoring Award. Dr. Logar has been vital to the success of not only the Programming Team, but the student body as a whole, and this award recognizes the immense impact she has had on all of us here at Mines.

Dr. Larry Pyeatt has completed his textbook “Modern Assembly Programming with the ARM Processor. It is being published by Elsevier, and is now available for purchase. Dr. Pyeatt is very passionate about assembly programming, stating “I have always wanted to write a textbook, and the time seemed right. … This is the most important thing I’ve done with my life." Dr. Pyeatt earned his doctorate in computer science, focusing on artificial intelligence, and is teaching the Assembly Language class here on campus (using his own book!).

Dr. John Weiss recently returned from giving a series of invited talks at Universidad Peruana de Ciencias Aplicadas, located in Lima, Peru.

Dr. Caudle was invited to give a Consortium for the Advancement of Undergraduate Students webinar over the summer. The webinar is available at https://www.causeweb.org/cause/webinar/activity/2016-06.

Dr. Garlick continues her work on a multi-institutional grant on Unifying Statistical and Mathematical approaches for modeling animal movement and resource selection.

Dr. Karlsson has been funded by the NSF for a STEM education project with Michigan Tech.

Dr. Mengyu Qiao earned a best paper award at Advanced Applied Informatics conference in Japan. The award winning paper was entitled: “Merging Permission and API Features for Android Malware Detection”.

Other department faculty achievements include Dr. Larry Pyeatt receiving tenure status, along with promotions for Professors Richard-Greer and Grieve, who advanced in rank to Lecturer.

ACM Programming Team

The Programming Team traveled to the World Finals last May, hosted in Thailand. The coaches making the trip this time were Drs. Corwin, Logar, and Hinker. Team members include: Rachel Krohn, Daniel Andrus, and Matthew Dyke. This was an incredible experience for them, not only being placed in the top teams in the world, but also travelling and experiencing life abroad.

Continuing off that success, we had generous support to fund a programming team trip to Russia over the summer to take part in a boot camp designed to prepare 6 of our students for the 2017 World Finals. Few teams are invited to train at this camp. It was a great honor to have had them go and represent the School of Mines. Our group consisted of Dr. Larry Pyeatt, Programming Coach, and students: Matt Dyke, Micah Picasso, Chris Navarro, Bryon Glass, Andrew Stelter, and Matt Schallenkamp. The camp
provided the most advanced training in the world, and pushed the team to their absolute limits. These 6 students ended up placing in the top two SDSMT teams on October 29th.

On October 29th, our ACM Red Team took second place out of 231 competitors in the regional competition, qualifying them for world finals. The team includes Alexander Iverson, Matthew Dyke, and Matthew Schallenkamp. We wish them luck as they prepare for the challenges ahead. Yes, Matt Dyke went to world last year & will go again this year. He is the 1st ever SDSM&T student to qualify twice for World competition.

**ICPC World Competition:** Matt won’t go as far for his 2nd World trip. The 2017 World Finals of the International Collegiate Programming Contest will be hosted here in Rapid City by the Excellence in Computer Programming Organization on May 20-25, 2017. This will be the 7th trip to a World Competition for an SDSMT Team. It is a great honor to have the finals in South Dakota, and we are very excited to showcase what Rapid City and Mines has to offer.

**MCS Reunion Note:** Along with the World Finals, the MCS Department has decided to host a reunion during the festivities, on Saturday, May 20th. Please consider yourself invited to join us and catch up with old friends next May. We will have more news later about the reunion.

**Other Student Notes**

In our McLaury labs, MCS students (with guidance from Dr. Jeff McGough) constructed an ODROID cluster to support the ARM Fedora/ROS (Robot Operating System) project, started by a previous CSR Graduate, Scott Logan. With funds from a NASA grant, this cluster includes 26 boards hooked together to create a network that assists with building and distributing ROS to those who need it. This project helps to put SDSMT on the open source map for robotics.

Last spring we had a busy conference season. Six computer science students (Stephanie Athow, Daniel Nix, Christine Sorenson, Dicheng Wu and Derek Stotz) presented their research in Iowa at MICS (Midwest Instructional Computing Symposium.) Daniel Nix was presented an award for his winning paper, entitled: “Novel Feature Based Outlier Rejection and Motion Clustering”.

Four math students (Matthew Dyke, Caitlin Taggart, Rashyll Leonard and Ryan Waggener) traveled to Colorado to present their research at the Rocky Mountain Section of MAA.

**McLaury Building Update**

The McLaury Building will be undergoing a three phase renovation, with phase one starting this summer. Phase one includes an elevator on the east side of the building (long needed), ground and foundation work, new bathrooms, and new windows. Phase two and three involve remodeling the interior on all three floors, a new HVAC system, and a new electrical system for a more energy efficient building.

Construction of the building started in 1921 and mathematics faculty were among the first residents of the building. The Mathematics department has remained in this location ever since, changing to MCS around the 1970’s. The building was renamed in 1953 to memorialize Dr. McLaury, who was the very first Department Head of Mathematics, although never named so in a catalog. The complete remodel will be extensive inside, but the classic elements of the building will remain: the outside brick and white pillars, the
inside marble steps and slate chalkboards. This building is very important to the SDSMT campus, as the building has long served as the home of many students and faculty alike. Our department also has a lot of love for this building since it has always been our home. We are excited to take the next step in bringing our resources into the future. This remodeling project presents a great opportunity to redesign our space and leave lasting benefits for future generations.

The true value of our department can be seen throughout the halls, when students use these opportunities to go further and excel in their passions.

Sincerely,
Kyle Riley, MCS Department Head

www.sdsmt.edu/MCS