



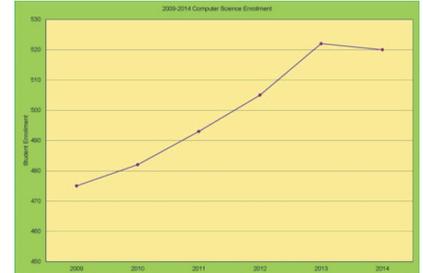
Dr. Brian M. Slator,
Department Head

Thoughts from the Head

Have we reached a plateau? At last?

Enrollment in Computer Science has been rising since I took this job; we are bursting at the seams. Total enrollment in 2009, combining undergrad and grad students, was 475 (401 men and 74 women). Since then total enrollment has increased 1.5% in 2010, 2.2% in 2011, 2.4% in 2012, and a whopping 3.4% last year.

I won't lie to you, this has strained resources. Our appropriated budget has remained flat, including our TA pool allocation (the money we get to hire grad students as graders, tutors and teaching assistants). It might not seem like much, but our numbers went from the 475 I quoted above, to 522, in just five years.



This bulge in enrollment has created a number of resource allocation issues. Sections of required courses go from near-full to over-booked (we have a policy limiting classroom size, for courses required by majors, to forty students — that is also the fire marshal's limit on the classrooms in our building). So we are faced with an uncomfortable choice, either turning students away or requesting 'extra section money' from central administration, and then finding instructors to teach the classes.

Advising also becomes an issue. We have 16 tenure/tenure-track faculty, plus Joan Krush, our professional adviser. Krush meets with all the first year students and most of the second year students. Until last year, the faculty divided the remaining students, roughly half, 256 or so, a neat 2 to the 8th power, which when divided by 16 (2 to the 4th) returns a nifty 16 each. Trouble is, advising 2 to the 4th power students approaches the limit of what can be efficiently done.

Help has come in the form of a new NDSU policy creating the 'Assistant Professor of Practice' position. The idea is to develop a non-tenure-track career path so academics can specialize in their area of strength. Typically, this is a teaching position. We have converted two lecturers to assistant professors of practice after they earned a Ph.D. in our program. Congratulations Dr. Sameer Abufardeh and Dr. Oksana Myronovych. As a result, for the first time, we are asking assistant professors of practice to take advisees, to help spread the duties around.

Besides the change in job description for Dr. Abufardeh and Dr. Myronovych, there have been a few other memorable changes since last year. Dr. Juan Li and Dr. Changhui Yan were awarded tenure and promotion to associate professor. Janet Fleming is now in a permanent lecturer position, Alex Radermacher has been hired as a lecturer, and Jane Dickerson has joined the front office staff working part-time during the middle of the day.

Also, sadly, Robert Foertsch resigned as CS Department System Administrator. For a while I was winning bar bets, challenging people to guess where Robert was going next. Nobody guessed it. It is impossible to know, but Robert might be the first person in history to resign a sysadmin position in order to go to a seminary to study for the priesthood.

Nate Olson, a longtime NDSU veteran, has stepped in for Robert, crossing over from the Evil Empire, er, I mean (just kidding), the Division of IT, to a position that is even more over-worked and under-paid than he had before. Such is the appeal of the CS department. Meanwhile we welcome returning heroes. Dr. Wei Jin is back from a semester of developmental leave, spent in part studying medical semantics and semiotics. Dr. Hyunsook Do returns from year-long developmental leave, spent in part collaborating with software engineering colleagues in her native Korea. And, Dr. Kendall Nygard is back from a year at the U.S. State Department in Washington D.C. as a Jefferson Scholar. We are all assembled, for the first time in a long time.

We are looking forward to another good year. Please donate to our scholarship funds. As strange as it may sound, we do NOT need charitable contributions to the department: scholarships, scholarships, scholarships. Any little bit will help. There is a form on the last page of this newsletter.

Dr. Yan's awarded grants

Dr. Changhui Yan, Associate Professor, received two NSF grants totaling \$616,476. The grant for *Computational Methods for Macromolecular Binding Analysis* is \$301,702. Dr. Yan, the sole investigator, is developing graph models to provide a succinct data structure to encode a range of structural and physical properties germane to molecular interactions.

The NSF grant for *A Biology Cloud* is \$314,774. Dr. Yan is the Principal Investigator; Co-Pi's are Dr. Anne Denton (CS), Dr. Christopher Colber, and Dr. Sangita Sinha (both Chemistry). They are developing a cloud computer infrastructure to enable pioneering research in the respective fields and promote and facilitate cross-disciplinary collaborations among them."

Walia wins two best paper awards

Computer Science Assistant Professor, Dr. Gursimran Walia, attended the 24th IEEE International Symposium on Software Reliability Engineering in Pasadena, CA and won two best paper awards.

Best Research Paper Award for the paper "*An Empirical Study of the Effect of Learning Styles on the Faults found During the Software Inspection*" was co-authored with Anurag Goswami, a Ph.D. student working under the direction of Dr. Walia at North Dakota State University

Best Industry Paper Award for the paper, "Using Capture-Recapture Models for Make Objective Post-Inspection Decisions" was co-authored with Dr. Jeffrey C. Carver, a research collaborator and associate professor at the University of Alabama.

Thanks to all who have donated funds to the CS department this past year. It is because of you we are growing and succeeding.

***denotes multiple donations**

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Students rewrite CHAPS

This summer Ph.D. student Talukdar Asgar and undergraduate student Justin Riendeau under the direction of Lecturer Joe Latimer began a rewrite of the Cow Herd Appraisal of Performance Software (CHAPS) for the North Dakota Beef Cattle Improvement Association. Working with Kris Ringwall and Lee Tisor from the Dickinson Research Extension Center and Lauren Hanna from the Animal Sciences Department, the group is updating and extending the CHAPS software. CHAPS has been used since 1985 to provide cattle producers with a production record system that provides herd performance statistics to support the producers' managerial decisions.

The rewrite includes moving from a Windows application written in Visual Basic with an Access database to a Web based application written using Microsoft's ASP.NET MVC5 Web development framework with an SQL database. During the summer the original vision of the rewrite as an online web based application morphed into an offline, standalone application that periodically synchronizes with a centralized database. A major challenge has been to provide each user with maximum flexibility while insuring the program captures all of the data necessary for creating the herd performance statistics. Work on CHAPS will continue through the academic year with the goal of adding a set of mobile apps to support and enhance the desktop application.

Honors Day Awards

The College of Science and Mathematics hosted its Honors Day award ceremony on April 11th, 2014 in the Great Plains Ballroom in the Memorial Union. At this event we recognize and honor recipients of scholarships in the College and the donors who make those scholarships possible. Through a generous donation by Microsoft, the Department of Computer Science and Operations Research awarded five scholarships to undergraduate students majoring in computer science who have completed 36 semester hours of work at NDSU and possess a GPA of 3.0 or more.



Congratulations Microsoft Undergraduate Scholars! Pictured with Dr. Brian Slator, are Nicholas Meske, WeiKang Lim, Dillon Dee, and Angela Alean (not pictured: Michael Bayles)

Wishes do come true



A longtime wish for the Computer Science department has come true. Remember the 116 & 128 classrooms in IACC? If the class was full, we used two rooms and the instructor

had to run between them.

This summer the 116 & 128 classrooms were combined to make one large classroom. It is a state-of-the-art facility, as you can see. The instructor stands in the center of the room using the console which controls everything: lights, projector, two large screens (one is shown in the picture), and the microphone. The classroom was finished just in time for fall semester. As an aside, in case you haven't heard, Industrial Agricultural and Communication Center (IACC) has been renamed to Quentin Burdick Building (QBB) in honor of Senator Burdick who represented North Dakota from 1959 to 1992, serving as both a Congressman and a Senator.

Our conference room was also updated with a 70" HD Smart TV, custom lectern and custom table with outlets in the center



financed by the 2013 Computer Science department Forward Award. Presentations and meetings have been taken to a new level.

Students attend Stars conference

Members of the STARS (Students in Technology, Academia, Research and Service) student leadership group attended the annual STARS Conference August 14-16, 2014 in Arlington, VA. Two students presented posters and all attended sessions during the conference. The department has been a STARS member since 2012.



Pictured are Brooke Billadeau, Alycia Christenson (BS '14), Nate Spanier and Joan Krush, Advisor.

ACM students teach PowerPoint

NDSU ACM members went to Madison Elementary School in Fargo to teach PowerPoint to 4th Graders on September 25, 2013. It was the



first time members of ACM have taught PowerPoint in a school. They taught again the end of October, November, and December.

Students in the back row are Matti Kariluoma, Nate Spanier, and Kevin Bauer. Students in the front row are Alycia Christenson, Brooke Billadeau, Josh tan, and Caesar Ramirez.

'MechMania' competition results

The NDSU ACM took second place in the prestigious Midwest programming competition at the ACM conference at the University of Illinois at Urbana-Champaign October 7-9, 2013. MechMania is a twenty-four hour artificial intelligence programming competition of which the NDSU ACM has been a perennial competitor. The contest is



an outstanding learn-by-doing experience that prepares competitors for the deadline pressures of the workplace. Teams are forming now to compete again this year.

PiRho team of students Zechariah Andersen, Benjamin Bechtold and Justin Anderson each received an Amazon Kindle and 100GB space from Dropbox for life for placing second. They were sponsored by the Computer Science Department, and coached by Robert Foertsch.

CS alumni & student news

Matti Kariluoma (MS, 14) is interning with Disney Research in Los Angeles, CA. He reports "[the] Magic Kingdom has been super, they've given me five complimentary tickets so far, plus an overnight backstage tour ... Most of the interns who joined WDI (Walt Disney Imagineering) for the summer have gone back to school, but while they were here we managed to hit the beach a measly five times, as well as San Diego and the Grand Canyon."

Daniel Small is in Hungary with his wife who is studying in the The Fulbright U.S. Student Program. According to the website "Sponsored by the United States Department of State, Bureau of Educational and Cultural Affairs, the Fulbright Program provides funding for students, scholars, teachers, and professionals to undertake graduate study, advanced research, university teaching, and teaching in elementary and secondary schools."

Computer Science Department 2740
North Dakota State University
P.O. Box 6050
Fargo, ND 58108-6050

E-mail:
NDSU.Computer.Science@ndsu.edu

Located at:
1320 Albrecht Blvd
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