From the Chair

The Computer Science (CS) department at BGSU was the first CS department in Ohio when it was established in 1969. For 47 years, we have prepared many accomplished alumni to work in many capacities throughout the industry. We take pride in their success and want to share with you some of their achievements (see page 3) and ours as well. This inaugural newsletter is intended to “reboot” our connections with alumni and friends in the industry as we think about ways to celebrate our approaching milestone of a half century.

Our department continues to grow! Computer Science saw a nearly 50 percent increase in student enrollment from 2011–15, and we’re proposing new programs to attract even more quality students to fulfill market needs. In partnership with the Ohio Attorney General’s Center for the Future of Forensic Science, BGSU has begun to offer a forensic science specialization in the subjects of biology, chemistry and criminal justice. Seeing the connection between computer science and forensics, the department has proposed a new specialization in digital forensics under the B.S. degree program. The proposal is currently being reviewed at the university level and we hope to launch the program in the 2016-17 school year. Another proposal under review—for a new major, a B.S. in software engineering—could potentially attract 50 students in its first year and 200 students over the subsequent five years. We would like to see a 2017–18 launch if the approval process goes smoothly.

We have hired some terrific new faculty members in the past few years (page 4). Our faculty continue to do impressive work, some of which has resulted in the department’s receipt of some coveted grants to fund diverse projects on subjects like open-source software, using robots to teach programming, and high performance and scalable algorithms.

Our Computer Science Advisory Board was established in fall 2014 to help to strengthen the program. The Board consists of faculty, distinguished alumni, and IT leaders who have a stake in the vitality of the department. To further bolster CS, we are seeking Accreditation Board for Engineering and Technology (ABET) accreditation. An on-site visit by the ABET evaluation team is expected to take place in fall 2016. ABET accreditation provides assurance that a university program meets the quality standards of the profession. While we already know we have an impressive program, the accreditation will add additional value and stature to the BGSU Computer Science curricula.

We are proud of the strength and vitality of the Computer Science department. We encourage you to read more about some of these developments in the following pages, and watch for the next issue in fall semester 2016.

Sincerely,
Dr. Joseph Chao, Chair
Agile Giving
Corporate Members Support Service-Learning Projects

The Agile Software Factory (ASF) is a program in which BGSU computer science students gain real-world experience by developing software systems and providing technical support for community partners. Studies have shown that students who participate in service-learning are better prepared for careers than students who do not, and these hands-on learning opportunities increase students’ value to future employers.

Agile software development, in general, involves the collaboration of cross-functional teams that self-organize in such a way as to achieve continuous improvement and a flexible response to change. Created in 2008 by Joseph Chao, the Agile Software Factory was one of the first programs in the U.S. to integrate agile methods into a higher-education curriculum, and it has been featured in a number of information technology publications. ASF actively engages the community, locates partners for student projects, and fosters corporate sponsorships to cultivate the skills students need to excel.

To that end, a new tiered membership model for corporate partners provides different benefits at different levels while allowing them to support the work of ASF:

**Megabyte Supporter: $1,000**
- Preferred access to guest lecture in relevant CS classes
- Company name/logo placement on printed event materials, and on the websites of the CS department and ASF

**Gigabyte Supporter: $2,500**
- Megabyte level benefits, plus
- Guaranteed access to CS Meet & Greet events

**Terabyte Supporter: $5,000**
- Gigabyte level benefits, plus
- Invitation to annual Mock Interview event with CS students
- $1,000 scholarship awarded to a CS major
- Dinner reception with scholarship recipients

**Petabyte Supporter: $10,000**
- Terabyte level benefits, plus
- Preferred access to results of department-wide Programming Contest
- $2,000 scholarship awarded to a CS major

In addition to service-learning projects, students have opportunities to work as part-time developers with ASF, and graduate students have opportunities to engage in projects to prepare them for further education or for entrance into the software industry. According to ASF director Rob Green, students in ASF worked on 14 projects in 2015 in areas of service, research, and education.

To participate in the Agile Software Factory Corporate Program or to engage with ASF staff, visit http://agile.bgsu.edu.

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Shantanu Narayen (’86, ’11) runs one of the world’s largest software brands. Named president and CEO of Adobe Systems Incorporated in 2007, he oversees products such as Adobe® Photoshop® software, Adobe Acrobat® software, and Adobe Flash® Player, and he has spearheaded multi-billion dollar acquisitions. He led the transformation of Adobe’s core business from traditional desktop software to cloud offerings. Through a focus on product innovation and market expansion, Narayen has taken a company primarily known for the art of creative software to a world leader in the science of big data.

Before joining the software giant in 1998, he held senior management positions at Apple Computer Inc. and Silicon Graphics Inc. He was also the co-founder of Pictra, Inc., an early digital photo sharing platform.

Narayen received a master’s degree in computer science from BGSU in 1986, and received an honorary doctor of applied science degree in 2011. That same year, he was appointed by President Barack Obama to serve on a new advisory board meant to help streamline government operations and better serve taxpayers. Narayen was appointed with nine other corporate leaders to the president’s Management Advisory Board, modeled after a similar board in Australia, in which industry leaders advise the prime minister on how to apply business best practices to federal operations.

Narayen received an Accomplished Alumni Award in 2006, and was selected as one of 100 of the most prominent alumni in celebration of the 2010 centennial anniversary of BGSU. His financial support has led to the creation of the Narayen Endowed Professorship, with a specialty in software engineering, to begin in fall 2017.

Alumna Julia Grummel had a dual major in computer science and digital arts, and a great familiarity with Adobe software products. She had used PhotoShop and InDesign in as early as junior high school, and says she was “a customer and a fan” of the software.

So when, in her sophomore year at BGSU, she heard about internship opportunities at Adobe Systems, she applied and landed what would become a three-summer internship at its headquarters in San Jose, California.

Although she hadn’t met Adobe CEO and fellow alumnus Shantanu Narayen prior to her internship (she met him during her first summer), she said that his connection to the university definitely helped her to get a foot in the door.

“There’s a relationship between BGSU and Adobe because of him, and Adobe pays attention to BGSU applicants because of that connection.” It didn’t hurt, either, that she was an active student in the CS department and chapter president of the Association for Computing Machinery.

Starting work in design for accessibility and usability at Adobe, Ms. Grummel eventually took on development work as well, and worked part-time on projects from home during the school year. It was a rich experience and she gained a great deal of real-world knowledge that lies beyond the classroom, including navigating a corporate environment and the different opportunities there are in the broad field of computer science. In particular, she learned about user experience design, or UX, which involves enhancing customer satisfaction by maximizing a product’s ease of use. After being exposed to UX, she decided that’s what she wanted to do.

Ms. Grummel graduated in May 2015 and was hired full-time as a UX designer/developer at Adobe the following month. Her team is working now on the restructure and redesign of Adobe Support, which includes both online and live agent tech support tools. They are making many of the design changes to online templates for support web pages and agent tools for an improved experience for the customer. Her role involves front-end coding to build prototypes in consideration with the interaction a user has with a particular design—a perfect fit with her dual major of computer science and digital arts.

“The BGSU computer science program was really valuable because the department is so closely tied to the industry,” said Grummel. “There were so many valuable opportunities, and speakers, and workshops, and relationships with people in the industry, that it made the transition from the classroom to corporate life much smoother.”

She says she joined Adobe at a very good time because the project involves the collaboration of many teams and entails big changes that will have a big impact on the company. The two-year project is scheduled to be completed in summer 2017.
Robert Dyer

National Science Foundation grants aren’t easy to get; assistant professor Robert Dyer recently received two. One of the three-year multi-institutional grants, for $2.1M ($214k at BGSU), will fund his team to investigate utilizing Big Code—millions of open-source software projects—to automatically infer formal specifications of open-source libraries. Formal specifications, used in safety-critical applications such as airplanes and medical devices, describe what the code is supposed to do and allows verifying its correctness. A second three-year grant for $1.5M ($130k at BGSU) will support the community research infrastructure called Boa, which enables researchers to mine hundreds of thousands of open-source software projects very efficiently. Boa is currently used by more than 500 researchers in 20 countries.

Dyer’s scholarship record, which centers around research domains of software engineering, is significant and noteworthy for a junior faculty member, and has earned him one of the two BGSU Outstanding Early Career Awards of 2016.

Jadwiga Carlson

Lecturer Jadwiga Carlson was nominated by the Computer Science department for the 2015 BGSU Distinguished Instructor/Lecturer Award due to her willingness to teach a wide variety of courses, outstanding student and peer teaching evaluations, and a strong service record. She has an active classroom style that engages students in meaningful activities; she recently developed presentations in which Lego Mindstorms EV3 robots are used to teach programming concepts. So well received were the sessions that Carlson applied for and received a $5,000 grant from Google to integrate the technology into a “Programming Fundamentals” course.

Carlson serves as faculty advisor to BG Women in Computing (BGWIC), a group that has helped to maintain a female-to-male ratio among majors that is higher than the typical Computer Science department in the U.S. She supports, among other activities, the Tech Trek summer STEM camp for girls. For these and the contributions previously mentioned, she has also earned the department’s nomination for the BGSU Women of Distinction Award.

Rob Green

Rob Green, assistant professor, received two grants in the past year. An internal BGSU Building Strength Grant in the amount of $2,000 was awarded to support the Agile Software Factory in developing software to measure the mathematical abilities in pre-K to second grade students. An Amazon Research Grant, for $5,700 in Amazon Web Services credits, was also awarded to pursue research in Hadoop-based similarity joins and other high performance and scalable algorithms.

Jong Kwan “Jake” Lee

Jong Kwan “Jake” Lee recently received tenure in the CS department and was promoted to associate professor. In fall 2015 he gave a keynote speech on information discovery in visualization and computer vision at the International Conference on Computers, Communications and Systems held in Gyeongsan, Korea.

Faculty Achievements of Note

COMINGS AND GOINGS

Tenure-track Faculty Hires:

- Sankardas Roy 2015
- Robert Dyer 2014
- Yan Wu 2014
- Rob Green 2013
- JK “Jake” Lee 2009

Retirements:

- Guy Zimmerman 2015
- Walter Maner 2012
- Mohammad Dadfar 2012
- Laura Leventhal 2011
- Ron Lancaster 2010
- David Chilson 2009
- Larry Dunning 2008
- Lee Miller 2004