In 2003, Villanova and the Computing Sciences Department signed an exclusive agreement with the Internet Office of the Holy See in which CS majors can study abroad in Rome and work with Vatican staff on the Vatican's official website at www.vatican.va. Orchestrated by Dr. Frank Klassner, the program has grown to include communication majors as well as a new technological direction: virtual reality. In October, 2008, a team of Computer Science and Communication personnel began taking the first of many pictures in an 18 month project to make the major basilicas of Rome, such as St. Peter’s, St. Paul Outside the Walls, St. John Lateran, and St. Mary Major, accessible on the web in unprecedented detail using QuickTime and Flash virtual reality technology.

Senior Dan Priece and Dr. Klassner joined Prof. Paul Wilson, Chad Fahs and Caroline Ford from the Communication Department in Rome after fall break to capture 1500 high-resolution digital photos from St. Paul’s Basilica to be stitched into an interactive photo-realistic 3-D tour for the Vatican’s website as part of the Catholic Church’s celebration of the “Year of St. Paul.”

In February 2009 the team, including sophomore Cory Knobler, will collect images of St. John Lateran, the Pope’s diocesan church. Because of the sheer size of St. Peter’s Basilica, its “virtualization” will be ongoing, involving the collection and integration of over 20,000 10-megapixel pictures. The Villanova team is getting rare access to areas of the basilicas that are normally off-limits to the public.

The project’s juxtaposition of modern technology with Rome’s two-millennia history is certainly giving the CSC interns a unique perspective on what computing careers in the 21st century can entail!

Even in these uncertain times, our students continue to find the market to be a favorable one for computer science majors. This issue’s spotlight is on John Fiedler (BS, ‘05), who writes:

Since graduating from Villanova in the Spring of 2005, I moved to midtown Manhattan and began working at FOXNews.com. I began as a Front End Web Developer and am currently a Senior Developer at the company. My current role requires me to lead the development effort as we move from an outdated Vignette content management system to one built entirely in-house. Our in-house solution is being constructed entirely with open-source, Java-based technologies. The experience I gained at Villanova gave me an incredible advantage in order to lead the effort I am currently undertaking. It has required not only a knowledge of programming, but also of system architecture, system administration, database structure, and networking. In addition to this current role, other roles have allowed me to gain experience with some of the most cutting-edge tools and technologies. It has been a very fulfilling ride thus far and I am thrilled to have had the opportunities to work on innovative and engaging projects every single day.
In spring 2008, Villanova University promoted Dr. Giorgi Japaridze to the rank of Professor. Also, Dr. Vijay Gehlot and Dr. Thomas Way were awarded tenure and promoted to the rank of Associate Professor. The three faculty prepared extensive dossiers with documentation about their teaching, research and service to the University. The University performed an exhaustive review of their dossiers and accomplishments before promotion and tenure were awarded. Congratulations to three highly talented and academically accomplished professors!

Dr. Giorgi Japaridze Dr. Vijay Gehlot Dr. Thomas Way

PROGRAMMING TEAMS COMPILE BEST-EVER SCORES

On October 25, 2008 the Computing Sciences Department sent two teams (Wildcats Blue and Wildcats White) to Wilkes University to compete in the 31st annual regional International Collegiate Programming Contest conducted by the Association for Computing Machinery, the international professional organization for computer scientists. The contest challenges teams to develop and write programs to solve eight problems in five hours. Each team has three members and one computer. Teams are required to solve problems using Java or C++.

Wildcats Blue finished four problems and Wildcats White finished two problems. These results earned the Blue team a 2nd place finish out of 21 teams at the Wilkes site and tied for 5th place out of 161 teams from 66 schools in the entire region from North Carolina to Pennsylvania.

The Wildcats White team’s performance earned an 83rd place. Only fourteen other teams managed to solve four problems, and only four teams in the entire region solved more than four problems. The 19th-place finish and 2nd-place site finish represents the best record achieved by a Villanova team in a region containing schools such as Lehigh, Virginia Tech, Duke, Drexel, Bryn Mawr, and Swarthmore. Kory Kirk ('09), AJ Palkovic ('10), and Casey Burkhardt ('11) were members of Wildcats Blue. Richard Banister ('09), Kristin Raudonis ('11), and Stephen Walter ('09) were members of Wildcats White. Dr. Frank Klassner is team coach.

STUDENT ACM CHAPTER HOSTS SECOND HALO LAN PARTY

By Casey Burkhardt

On Friday, October 3, 2008 the Villanova Chapter of the Association for Computing Machinery in conjunction with the Department of Computing Sciences held its second annual mixer event for computer science majors. The event featured music, a massive amount of pizza, and a Halo LAN party.

“It was a great success and attracted over twenty computer science majors,” said Minh Tran, the ACM chapter’s president. Congratulations to sophomore Anthony Dovelle for his impressive Halo skills and his first place victory in the Halo tournament.

In addition to regular ACM chapter meetings, future events being planned by the ACM include final exam study sessions on each of the Fall and Spring reading days and the annual department picnic and volleyball game in the Spring. New student members are always welcome, with information available at: www.csc.villanova.edu/~tway/acm/
MESSAGE FROM THE CHAIR

This is a great time to be a computer science major at Villanova.

- The graduate students have the choice of programs in computer science or software engineering.
- The undergraduate students have been successful in the ACM programming contest, in summer internship projects, and in conference contests. Pat Cesarz just won $2000 and a cool graphing calculator.
- The faculty members with grant support have involved students in substantial research projects with more to come as we win grants and contracts for software modeling, innovative course development, and digital library technology.
- The department web site is featuring the stories of several of our female alumni.
- The very successful Villanova Computing Scholars program (VICS) will be replaced by VICS: The Sequel. It will have a TWISTZ component to better prepare our graduates for their careers (that’s Team Work in Several Time Zones).

I’m pleased to acknowledge the support of several alumni who have consistently made contributions to the alumni fund and earmarked their money for computer science. These gifts, and there could always be more, are used to support student research and travel, like Nagesh Javali’s trip to Hong Kong (see below).

I’ve challenged the web team, who are proud of the Ruby on Rails version of our site that is now up, to develop a “Where are the faculty members” page to allow everyone to track our contributions to the international computer science research and education communities. These travels include the Microsoft Faculty Research Summit, ETHICOMP, ITiCSE, ESDL,... (You’ll have to use Google to learn more since I’m out of space.)

BITS & BYTES


Nagesh presented a paper titled “Distributed Construction of Bounded-Degree Low-Interference Spanners of Low Weight” which was co-authored by Dr. Mirela Damian. The positive reception to his paper has encouraged him to pursue his research further while continuing his professional career, and to perhaps work towards a PhD in the near future.

This past summer computer science majors Casey Burkhardt (‘11) and AJ Palkovic (‘10) interned at NASA facilities. In the DARTS lab in California, AJ worked on ROAMS, a software tool for efficiently simulating rover vehicles and their interactions with the environment. AJ made a number of specific changes to ROAMS to simplify the development and debugging of software models of the rovers as well as enhancing the presentation of the simulation. The internship was sponsored by CalTech’s SURF (Summer Undergraduate Research Fellowship) program.

Casey Burkhardt interned at John C. Stennis Space Center, NASA’s premiere rocket propulsion testing facility in Hancock County, Mississippi. Casey worked with a team of software developers to create a suite of rocket propulsion testing support software to manage simulation data. The software package is currently being utilized by the Engineering and Science Directorate at Stennis Space Center.

On November 21, 2008 Kory Kirk (‘09) and Nawar Molla (MSCS ’09) presented their research on spanners for wireless networks at the National Sigma Xi Student Research Conference held in Washington, DC. Kory presented his research on Delaunay spanners, and Nawar spoke about Yao spanners. The conference provided an excellent opportunity for Kory and Nawar to network with other student researchers from premier research institutions, and to participate in mentoring and panel discussions.
Almost every year since 1984, a peculiar contest has been held for computer programmers. The International Obfuscated C Code Contest pits computer scientists and others against each other in a contest to see who can write the most incomprehensible C program that also does something useful or cool. The winners are always spiffy and startlingly unreadable, and yet the sole prize for a winning program is being published on the contest web site.

I particularly enjoy the “one-liner” category. I love these single lines of C code for their devious elegance, but mostly because I can create them myself without spending all consarned day on them. Here are a couple of examples that I wrote:

```c
main(_){putchar(_+'@');_^'?'^'%'?main(++_):_;}
main(i,l)char**l;{i&&main(*l[1]++,l);putchar(i);}
main(b,d){for(d=b;b<=d;printf("%d ",d),d+=b=d-b);}
```

Can you tell what these do? (Spoiler alert!) The first prints out the alphabet in ALL CAPS, the second reverses the characters in a command line argument and the third prints out the first 46 Fibonacci numbers. Useful, eh?

The best part about writing obfuscated programs is that you get to break all the rules of good programming practice. On purpose! What really surprised me was that after working on these monstrosities, my “real” programming improved. A lot! So give yourself a gift this holiday season and write some really bad code... you’ll be glad you did!

And now a gift, just in time for the holidays, and yes, it actually compiles and does something cool!

For fun or to save the typing, visit my page of tiny programs at: www.csc.villanova.edu/~tway/coolc