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February is Black History Month!

Dr. Mae Jemison (1956 -) is an MD and an expert in chemical engineering. In 1992, she became the first African-American woman in space, when she flew aboard the space shuttle Endeavour.

In 1993, she had a cameo appearance on Star Trek: The Next Generation. She is the only person to appear on any of the Star Trek series who has actually been in space.

- Monthly Science with Mr. Science (February 2003)

Internships: Are They Really Better Than Co-op?

by Iwona Ciesielka & Mitch Zimmer

In times of increased competition for "top talent", Western's Science Internship Program offers an alternative to the traditional concept of cooperative education. The program involves 8-16 month placements in Industry and is geared towards 3rd year Honors students. The extended length of the work term allows enhanced training for students, giving them the opportunity to contribute to advanced projects from start to finish. There is another advantage, since internship students have usually completed three years of their degree; they have the required skills to take on more challenging assignments.



Employers, in turn, have the opportunity to work with academically well-qualified students who have at least a 70% average and are in good standing with their academic departments. Most importantly, industries have the opportunity to get to know the personality as well as the skills of an Intern. If it turns out that there is a good match of interests, an Internship placement may lead to successful recruitment of a full-time employee upon graduation.

Students also receive "not so obvious" benefits. **Dale Hoshooley (CS'01)**, who completed his Computer Science Internship at London Life in 2000 recalls, "[It] exposed me to a variety of careers in the IT industry. It provided me with the opportunity to explore different areas including software development

and infrastructure implementation, as well as support." Having an Internship opportunity gave Dale the chance to get his "foot in the door" and eventually led to full-time employment.

Yuzhen Xie (CS'02), a graduate student in the Computer Science department, had a similar feeling about identifying future career options, when she returned from her Internship in 2001 with FAG Bearings. "While working, I was often faced with deadlines," she says. "This showed me that time is a valuable commodity, and this in turn has helped me improve my

time management skills. When I came back to UWO, I was a 'serious' student, which meant that I knew what my responsibilities were. Now, as a graduate student, I don't treat my project as a student project, but rather view it as a useful tool for industry. In addition, my grades improved following my internship... perhaps this is because I saw my courses were important and relevant to my work."

Internships allow professionals in the field to act as mentors

There is another thing to keep in mind; internships allow professionals "in the field" to act as mentors. These contacts can often show interns where the industry is going, and may assist students with future decisions. Combined with the fact

that Interns are often invited back for full-time employment,

(continued on page 2)



The *E. Coli* bacterium propels itself with a 'motor' only one-millionth of an inch in diameter, a thousand times smaller than the tiniest motors built to date by man. The rotation of the bacterial motor comes from a current of protons. The efficiency of the motor approaches 100 per cent.

-Dr. David F. Blair, Utah University



The going rate for breath consultants in New York City is \$125/hour. This gets you a breath-analysis using a gas sensor and a computerized gum thermometer. The sensor detects sulphur compounds, a by-product of bacteria in the mouth. You then get a 'breath make-over'.

-Reuters News Wire Service, 2/96

Games People Play: Q & A

With Dr. Mike Katchabaw

by Laura Reid



Mike Katchabaw (CS'95)

Unix or Windows (or Macintosh?) I have all of the operating systems installed and I tend to have the attitude "Use the right tool for the right job". Thus, it just depends on what I am doing but I do honestly use all of them.

What is your programming language of choice? C

You did an undergraduate degree in Computer Science at Western, what course did you love? What course did you hate? My favourite course was CS350 because Professor Downing let us program a robotic arm, how cool is that! My least favourite course was CS331.

Who was your favourite Prof? Aija Downing...I liked the fact that she always treated everyone fairly.

What is your favourite course to teach and why? I enjoy teaching the video games course because the material is quite different from the material the students are used to dealing with during their first three years and I enjoy interacting with and getting to know my students.

What are three of your favourite web sites?

Two websites that I visit daily are: www.slashdot.org (the title of this website is: News for Nerds). and www.google.ca (mainly for searching but I use it for other things as well). Another web site I like is www.wikipedia.org. I visit it mainly because it's an amazing reference!

What is one of your favourite games? Video games? Least favourite game? I play hearts (a card game) every day at lunch with some of the faculty and staff. It is a pretty good game. My all-time favourite video game is Grand Theft Auto. My least favourite game is "20 Questions With Laura" :-)

What place would you love to visit and why? India, because my wife's family is from Kerala, India (Southern India).

Do you have a favourite book/author right now? The book *The Hitch-hikers Guide To The Galaxy*. It's a classic.

What person, living or dead, would you like to have lunch with and what would you ask them? The guy who has been plowing my street this winter. I would ask him why he always plows past my driveway AFTER I have just finished shovelling it!

If you had one piece of advice that you could give a computer science student, what would it be? Don't be afraid to ask questions, it's a good way to find things out. ❄️

this is a win-win situation for both the student and employer! A case in point would be **Mark Millar's (CS'04)** internship experience with TD Waterhouse which officially ended in the summer of 2003, "My internship placement went exceptionally well and I couldn't have asked for anything more," says Mark. "I was a respected employee within the company and trained in various personal development and project management courses and then I had the opportunity to take on my own duties proactively. After the 16-months I was able to work part-time while I finished my 8 months of school, and subsequently got hired on full-time after I graduated." Over the last 10 years, approximately 300 students from the Computer Science Department have actively participated in the Science Internship Program. The placements have ranged from large to small organizations, across Ontario, Canada and Internationally. ❄️

"I was a respected employee within the company. . . ."

Mark Millar, CS '04

If you would like more information about the Science Internship Program, please visit: www.uwo.ca/sci/iip or contact Ms. Gail Wendt,

Alumnus Writes the Book on Communications Software

CS alumnus **Greg Utas (CS'79)**, software architect and consultant in the US, has come out with a new book: ***Robust Communications Software, Extreme Availability, Reliability and Scalability for Carrier-Grade Systems***. Greg's book offers, among other things, advice on choosing technologies for building reliable software, and it discusses system installation, operability, maintenance, and on-site debugging.

Bob Hanmer of Lucent Technologies says, "**Greg really cuts to the core of those elements of software architecture that I've found to be necessary...**" ❄

Available at Amazon.com

Western Hosts DNA Computing Conference

BIOMOLECULAR COMPUTING has emerged as an interdisciplinary field that draws together computer science, mathematics, molecular biology, chemistry and physics. Our knowledge of DNA nanotechnology and biomolecular computing increases dramatically with every passing year. The international meeting on DNA Computing (formerly DNA Based Computers) has been the main international forum where scientists with different backgrounds, yet sharing a common interest in computing, meet and present their latest results. The 11th International Meeting on DNA Computing, now under the auspices of the International Society for Nanoscale Science, Computation and Engineering (ISNSCE), focused on the current experimental and theoretical results with the greatest impact.

DNA11 was organized by **Lila Kari** and **Mark Daley (CS'03)** at The University of Western Ontario, from June 6th to 9th, 2005. With 150 participants, DNA11 was the best attended DNA Computing Conference to date. The first day of the meeting was devoted to tutorials on computer science, molecular biology, and DNA nanotechnology.

Four 55 minute invited talks were delivered by senior scientists. **Eshel Ben-Jacob** (Tel Aviv) spoke on bacterial intelligence and DNA computing. **James Gimzewski** (UCLA) described recent works exploring nanomechanical characterizations of cell bacteria and proteins. **Pehr Harbury** (Stanford) presented recent results on the use of DNA molecules to govern generalized output processes. **Eric Klavins** (Washington) spoke on robotic self-organization. There were twenty-three 25 minute talks oral presentations of research contributions, where the last minutes of each talk were devoted to an active time for questions and comments. Also, a poster session was held where forty-five posters were presented. With **Len Adleman** (the founder of the field of DNA Computing) in attendance, and with an impressive array of talks combining theoretical aspects with the latest achievements in nanotechnology, DNA11 was a successful and inspiring meeting. The Fields Institute was the main sponsor for the conference. In addition, the conference was supported by MITACS, BIOMAR Inc. and The University of Western Ontario. ❄

Dr. Lila Kari

The Computer Science Society (CSS) has a variety of events for CS students this term. First off, following the success of the Extreme Turbulence LAN party last term, we're teaming up with WEGA (Western Electronic Gaming Association) again to hold another LAN party in March which promises to be bigger and better than the last one. We also have plans to take students of legal age on a pub crawl through downtown London in the near future. The idea of a CSD faculty vs. students Trivial Pursuit challenge had been put forward last term, and we'll be finalizing the plans for that in the weeks to come. There are also a few other plans in the works, however we need to finalize them before we announce them just yet. Overall this looks to be an exciting term for Computer Science students at Western, one the CSS executive hopes will be enjoyable and memorable for all involved.

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The tech job market has sprung back to life despite ongoing fears over outsourcing and the fallout from the tech recession. In 2005 some 125,000 tech jobs were created, according to Moody's Economy.com. This year, predicts Mark Zandi, chief economist of Economy.com, the industry will have its best year since 2000, creating 217,000 jobs with rising wages.

**"They're Hiring In Techland", Business Week Online
January 23, 2006**



Documentation is like sex: when it is good, it is very, very good; and when it is bad, it is better than nothing.

-Dick Brandon



To err is human; to make real mess, you need a computer.

-Anonymous



For very short distance, crocodiles can charge at speeds of 15-30 mph, and they can swim at up to 20 mph. However, they tire quickly and can't keep up such a fast pace for long.

By contrast, the three-toed sloth moves at speeds of about 1 mile per month. (Or an average of about 0.0000462 mph, which works out to about 3 inches an hour.) Sleeping 19 hours a day probably doesn't help the sloths get anywhere fast, either.

- Monthly Science with Mr. Science (April 2003)

We'd Like to Hear From You!

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Visit our Alumni web page, found at:

www.csd.uwo.ca

And the award goes to...

Earlier this month, we chatted with CRA award winner, 4th year Bioinformatics student Beth Locke:

You're close to completing your undergraduate degree ... did you always want to study computer science? Yes, but not exclusively. I was drawn to computer classes and sciences in high school, and was introduced to bioinformatics, which sounded really interesting to me. So I came to university to study computer science, biology and bio-chemistry.

What discipline particularly interests you? I'm still really interested in Bioinformatics, more specifically in modelling biological processes and systems both with formal theory and computer programs.

Do you have any specific plans after graduation? I'm applying for my Masters and hope to continue in bioinformatics. I tried not to make specific plans after that, just to give myself the chance to decide after I have more experience in research.

How would you characterize your student experience here at Western? It's been very positive. The Computer Science department has given me a lot of flexibility even within the restraints of the program and allowed me to get into a variety of courses, which I think is really important when you are doing an interdisciplinary degree.

You were recently one of only 4 Canadians selected for the 2006 Computing Research Association's Outstanding Undergraduate Award. What kind of impact has receiving this award had on you? Well it's given me a lot of confidence for one thing. It's nice to be recognized for your work and definitely rewarding to be among so few Canadians. Academically I think it will be a strong point on application and resumes in the future and hopefully will open the door to new opportunities.

What kinds of things do you like to do when you're not studying or in class?



4th year CS student Beth Locke

I play a lot of intramural sports like waterpolo, ultimate frisbee and volleyball. I also do dance and yoga. My major hobbies are knitting, making clothes and making jewelry. I also love camping and I try to get away on a big trip about twice a year, canoeing and hiking trips mostly.

What advice would you give to high school students considering a program in science, especially computer science? Well, first off [the courses] aren't as hard as they seem. I find there's more focus on concepts rather than memorization in computer science, so if you have a mind for concepts and problem solving, it's all pretty straight-forward.

In terms of advice, I would say that you should really learn the material from your highschool science classes. The class sizes are really small in highschool, so it's a lot easier to ask questions if you don't understand something. Also, a lot of the material in first and second year is review or builds on material from highschool, so if you learn it well the first time it saves a lot of time and studying in university.*

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Announcements

* In June 2006, the Department of Computer Science at Western is hosting the **IEEE 7th International Workshop on Policies for Distributed Networks and Systems**

* The Department of Computer Science at Western will host **Future Play 2006**, an academic conference on gaming, this October

* Congratulations to Professor Emeritus **Irene Gargantini**, who has been recognized by the IBM Centers for Advanced Studies (CAS) as a **Canadian Pioneer in Computing**

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All other photographs courtesy of Scott Feeney