



TAKE NOTE

Waiter! There's a robot in my soup

Science fiction writers are going to have to try harder if they want to stay ahead of reality. Futuristic contraptions unleashed by the imagination are rapidly moving off comic book pages and into everyday life. Take UBC researchers, for example, who are exploring the possibilities of building a cheap, insect-sized robot that can fly by itself. And this robot isn't just pie in the sky because many of the tools and materials needed to realize it already exist.

Electroactive polymers are high-tech plastics that can mimic the characteristics of muscle. John Madden and Joseph Yan (electrical and computer engineers, respectively) want to investigate polymer application in robot design. Earlier research by Yan established that mechanical wings are able to produce enough lift to get a robot airborne and Californian researchers have already managed to get a larger, bird-sized robot into the air.

"The way we're hoping to tackle this is to combine new materials and new actuator technologies – that is, new methods of getting things to move – that will give us tremendous advantages in mechanical design and cost," says Madden. The robot insect would have a microconductor for a brain, an onboard power source, weigh less than a dime and its development would involve approximately \$1 million worth of materials. It would have two sets of wings like a dragonfly. The electroactive polymers, which can double their size when a voltage is applied and return to original size when it is removed again, much like the contraction and relaxation of muscle, would be used in mimicking insect flight.

Madden's side of the project is to examine the electroactive polymers that have become available over the last few years and determine which ones are most suitable for the task. The materials are at various stages of



Robot insects. Joseph Yan and John Madden test drive the new dragonfly.

development and not all their properties are known. Yan will design a wing mechanism that will work with the selected polymer.

A lot of the difficulty lies in accurately recreating the biological movements involved in insect flight since there is limited understanding about its mechanics. "One of our biggest challenges is trying to generate the correct motions so that the robot will do what we want it to," says Yan, who is using high-speed video footage and large scale models of wings to investigate how forces act on wings. "There have been some breakthroughs with unsteady aerodynamics, but we're still at the stage where simulations aren't as good as they should be so we need to copy and measure what the biological organism is doing."

By the end of this pilot in May 2004, the research pair hopes to have identified a suitable polymer, but there are no swarms of

plastic dragonflies on the near horizon. Building the robot will involve future projects replete with more challenges, one of which is scale. "To put it together," says Yan, "you need to have micrometer level resolution in the placement of the parts. A typical hair is 100 micrometres in diameter. We'd need to be able to orient these parts and position them on about a hundredth of the width of a hair."

E. coli Vaccine for Cattle

A vaccine to combat E. coli in cattle, developed by UBC's Brett Finlay, will be marketed by a public company in the new year. Finlay, professor of biochemistry, molecular biology and microbiology, invented the vaccine with colleagues at UBC.

E. coli is found in cow intestines, and is sometimes transmitted to the cow's flesh. Hamburger disease, so called because the

TREK 2010: RENEWING THE VISION



The past few months have been important in defining UBC's direction in the years to come. With the help of faculty, staff, students, members of the community and, of course, our alumni, we have undergone an institutional re-examination to make sure the goals we set are ones that resonate most with our various communities.

During my first year at UBC we developed a vision document, *Trek 2000*, that attempted to redefine the university

and provide a framework upon which to build new programs and review existing ones to best meet the community's needs. *Trek 2000* established five general priorities – the five pillars – for university units to reference when assessing their programs and services.

The five pillars – People, Learning, Research, Community and Internationalization – are extremely useful to us as we move UBC toward our goal of becoming the premier research university in Canada. Our review of *Trek 2000* in its entirety was undertaken to make sure those tools can still serve us.

The first version of the *Trek 2010* discussion paper was prepared in early November and distributed across campus and the community in both print and web versions. Feedback on this discussion paper has now been gathered, and the process of finalizing the *Trek 2010* vision is underway.

As BC's largest post secondary educational institution and one of the leading research universities in the country, we must constantly assess what we do and how we do it by asking ourselves some basic questions:

How much input should we place on workplace needs when we set our educational goals?

Should we rebalance the relationship between our arts and science offerings?

What are our educational priorities in terms of new technologies?

Should UBC be local, national or international in scope? Should we embrace all three?

Considering the problems of student access to UBC, what should be our stance re: government financing v/s private donations?

The answers to these and many other questions will inform our next steps in developing a long term plan for the development of this university. In an ever-changing, increasingly complex world, it's important that we know what our constituents think and that they have input into the planning process.

During January and February, we will prepare the final version of *Trek 2010*, and present it to the university's Senate and Board of Governors for approval. It will be ready for circulation in March, 2004.

I appreciate your input, and look forward to your assessment of the final product.

– **Martha Piper**, *President, University of British Columbia*

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disease is thought to be passed on to humans from undercooked meat, kills many people around the world and infects 55,000 North Americans annually.

The vaccine will likely sell for about \$2 per dose. There are more than 100 million beef cattle in North America, about half of which are known to be carriers of *E. coli*.

Fighting AIDS Dementia

■ At least one in five people with AIDS will suffer from HIV dementia. The condition advances aggressively, impairing memory, movement, concentration, problem-solving and speech. But there is hope.

Researchers at UBC and the University of Calgary have found that the dementia is caused by an HIV-induced enzyme, Metalloproteinase-2 (MMP2), which kills nerve cells in the brain by altering and rendering toxic a molecule that is crucial for normal brain function and growth.

"We now understand how this enzyme becomes a killing machine," says Christopher Overall, Canada Research Chair in Metalloproteinase Biology at UBC. "This is exciting news for patients because we think dementia can be slowed or stopped by adding another protease blocker to the drug cocktail now used to treat HIV." The drug they hope to use to combat MMP2 is already in clinical trials for cancer treatment.

The research is exciting because it may have implications for the understanding and treatment of other dementias. "The team and I are revved up about the new avenues of potential treatment for people with HIV and perhaps for other types of dementia, such as Alzheimer's disease," says Christopher Power, principle co-investigator and physician-scientist in the department of Clinical Neurosciences at the University of Calgary.

A number of pharmaceutical companies have expressed interest in testing anti-cancer drugs like Prinomastat as blockers for MMP2 and negotiations are now underway, although it may be five to 10 years before the drugs become available to patients.

Pauly's Disappearing Fish

■ A UBC scientist, famous for his outspoken criticism of global fisheries, has been named one of the 50 most influential scientists in the world in the December issue of *Scientific American*. Daniel Pauly, director of UBC's Fisheries Centre, is a world authority on declining fish stocks, and how they respond to environmental pressures, ecosystem fluctuations and commercial fishing.

After a peripatetic childhood in Germany, France and the US, Pauly earned a PhD in fisheries biology at the University of Kiel. Afterwards, he traveled extensively in Africa, Indonesia and the Java Sea carrying out research and growing ever-more concerned about the state of the world's fish stocks.

Once in tropical waters, he realized that methods used to analyze fish in temperate waters could not be applied to tropical fish. He

developed original methods to collect data on tropical fisheries, methods that did not depend on expensive equipment. He feels strongly that researchers in developing countries are the best ones to study their own fisheries, and that the tools must be affordable.

Pauly's research has shown that the world's most preferred commercial fish, such as cod, tuna, haddock, flounder and hake, are already seriously overfished. A report written by Pauly and other researchers in 2002 predicts that, at current fishing rates, these and other preferred fish will be all but extinct. The study also showed that the catch of these fish has declined by half in the past 50 years while efforts to harvest them has tripled.

Pauly came to UBC in 1994 and was named director of the Fisheries Centre in 2003. His research has resulted in the most important global database on fish stocks, *FishBase*, which contains information on more than 28,000 fish species. The database, which includes information on a specie's distribution, biology, importance, population growth rate and risk status can be accessed at www.fishbase.org. He also developed *Ecopath*, an ecosystem modeling program that predicts how fish may respond to changes in their environment.

Most fishery scientists, says Pauly, are only concerned with the fish stocks around their particular geographical area. He and his colleagues have taken on the global view, and that view isn't good. If commercial fishing is not heavily regulated, he says, there will be little left to harvest in the seas outside of the lowest levels of the food chain, such as sea cucumbers and plankton. Pauly and his colleagues say the only solution is to reduce global fishing drastically and to establish zones where fishing is absolutely prohibited so they can grow large, breed and replenish. The public, he says, must demand wholesale change in the way fish are harvested or lose forever most of the species.

Press Enter

■ The list of everyday tasks that can now be carried out online is growing. Paying bills, booking air flights, renewing library books, shopping – all can be completed within sec-



Fish Expert. Daniel Pauly is one of the world's top 50 scientists.

onds and without human interaction. You can even admit yourself into university – at least you can if the university is UBC and you meet admission requirements.

Ours is the first university in Canada to offer prospective students this service. The Enrolment Services Office developed the tool to ease the process of undergraduate application and enrolment. Prospective students can enter grades and other high school information to see if they meet requirements. If they do, they can immediately register via the web. If not, they get feedback about where improvements are needed.

For those who balk at the idea of the

diminishing human contact in service provision, bear in mind that the human interaction version of university admission can be confusing, time-consuming and patience-frazzling. Trying to get a handle on the status of an application isn't always straightforward, considering that for fall 2003, UBC received 30,000 applications. And an online system means the university can make more offers to top students earlier, cut down on processing procedures and free up staff time to address other student needs.

The idea is a winner. EDUCAUSE, an American non-profit organization that exists to promote the best use of information tech-

ALUMNI RELATIONS MOVE FORWARD



In the next few weeks, the Alumni Association will sign an agreement with the university to share the delivery of services to our membership. The outline of this agreement was provided in the Spring, 2003 issue of *Trek Magazine*, but I will review it here to bring readers up to date on the changes about to take place.

The university will create the office of Alumni Relations under the authority of an associate vice president of alumni affairs. This office will be responsible for alumni reunions, events for grads in branches around the world, young alumni programs such as mentoring and networking and faculty-based alumni programs.

The Alumni Association will be responsible for developing a pool of advocates to promote higher education to government at all levels, selection of alumni candidates for Chancellor, the university Senate and Board of Governors, alumni scholarships and bursaries, volunteer leadership, affinity partnerships and member benefits, alumni awards and the production of this magazine.

The new AVP, Alumni Affairs, will oversee the operations of both units, and will report jointly to the VP, Students, and to the Association's Board of Directors.

Anyone who has been involved with the Alumni Association recently knows that this agreement has been in the works for many years, and is the result of much hard work by successive Association boards and staff. As President of the Alumni Association, I feel this agreement represents the best method for achieving our mandate of keeping you informed about and involved in your alma mater. It also gives us an opportunity to be advocates for UBC in the community.

Our traditional role has been outward: we develop programs so you can maintain a relationship with your university and with the men and women who shared this significant experience with you. Now we have an opportunity to make our voices heard in an organized way beyond the university. Government and business at all levels need to understand the importance of UBC in our community, both as an economic and a cultural engine. As alumni, we have a unique perspective and a vested interest in keeping our university strong.

This new relationship with the university will help us, as an association of graduates, focus our energies on doing what we can in the community to support UBC. As part of the Vice President, Students office, the Alumni Relations office will deliver service-oriented programs designed to encourage your participation in UBC affairs, and to inform you about the exciting work being done here. The Association will, of course, oversee these programs and aid in their development.

The Board of Directors and the staff of the Alumni Association are excited about the changes coming to our program delivery and to our organization. At the same time, we want to ensure that you, our members, are informed and up to date about those changes. Please feel free to contact us with your ideas and opinions.

– **Jane Hungerford**, BED'67, *Chair, UBC Alumni Association*

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nology in higher education, has just awarded UBC an Award of Excellence in Administrative Information Systems.

Currently available to BC students only, the self-admission system will eventually be made available to high school students across Canada. March, 2003 was the deadline for 2003/4 applications. More than 10,000 high school students submitted applications over the web and more than 2,000 admitted themselves.

Back at Work

■ The Occupational Health and Safety Agency for Healthcare was set up in 1998 to study, design, and assess health and safety interventions in the health-care workplace. Jointly governed by health-care bosses and union leaders, OHSAH includes UBC researchers from a range of faculties and is headed by Annalee Yassi, director of the university's Institute for Health Promotion Research and Canada Research Chair in Transdisciplinary Health Promotion. The organization has just completed a five year mandate culminating in a report claiming more than \$50 million in savings over two years for provincial healthcare employers. The savings lie in a 28 per cent reduction in injury rates since 1998 and 38 per cent less time lost from injury since 1999.

Interventions collaborated on and monitored by the organization include alternatives to the manual lifting of patients. Pilot studies at four sites suggest that an initial investment of \$21 million made in 2001 to introduce ceiling lifts has led to an 80 per cent reduction on lifting-related injury in health-care staff. The lifting systems are now being introduced province-wide. OHSAH is also looking into how to reduce violence in the workplace, and increase safety in kitchens and bagless laundry systems.

The group hopes for further funding to carry out its work. Its main supporters have been the BC Ministry of Health Services, the Canadian Institutes of Health Research, the Canadian Health Services Research Foundation, the Michael Smith Foundation for Health Research and the WCB Research Foundation. www.ohsah.bc.ca

Perfect Misery

■ Major adjustments in life, whether positive or negative, can often give rise to high levels of stress and anxiety. Retirement is a life transition that some may find easier to adjust to than others. For some, it is a challenge that can lead to serious depression and even suicide. Personality traits play a role in how much difficulty is experienced and psychology professor and clinical psychologist Paul Hewitt thinks a determining factor could be perfectionism. "For individuals characterized by high levels of self-oriented perfectionism, who derive their self-esteem from their work and base their identity around work, productivity and achievement, it can be particularly difficult," he says.

Serious depression in the face of retirement is more prevalent in men than women, and those sufferers over 65 years old are especially likely to consider, plan or attempt suicide. Hewitt has recently launched a one-



Designing Software. New engineering software and hardware part of \$240 million gift.

year study that will attempt to understand the link between self-oriented perfectionism (demanding perfection of the self) and these suicidal behaviours. It will involve 130 men who will be given two questionnaires to complete, one of them five months prior to retiring, and the other five months after retiring. Hewitt hope the results can be used to spot those vulnerable to severe depression to enable more timely intervention. Its broader application may be to throw light on how personality traits can make people prone to maladaptive behaviours. The study is funded through a UBC Humanities and Social Sciences grant.

In-kind Gift Good for Geers, Annoys Protesters

■ The largest 'in-kind' gift in UBC's history was recently received by the faculty of Applied Science. General Motors, EDS Canada and Sun Microsystems gave \$240 million worth of computer-aided design, manufacturing and engineering software, hardware and training.

The software and hardware is considered some of the best in the world for its intended application. An industry spokesperson said the gifts are a good investment because students who train on them will be at the cutting edge of technology when they graduate.

The companies have made similar donations to universities in the US, Mexico, Germany and Sweden under the banner of PACE, Partners for the Advancement of Collaborative Engineering Education.

Some UBC students, however, were not impressed. They staged a protest at the Asian Centre, where the presentation was made. A student spokesperson said the gift represented increased privatization and corporatization of the university, and warned that such gifts always have strings attached, committing the university to adhering to a corporate agenda in its development.

Dean of Applied Science, Michael Isaacson, agreed that universities must be vigilant about gifts given with conditions, but stated that the PACE gift had "no strings attached."

Studies in Schizophrenia

■ Schizophrenia affects approximately one in 100 people. One in 12 hospital beds in Canada is filled by someone suffering the affects of the disease. More than four in 10 people who have the disease will attempt to kill themselves. At least one of them will succeed.

Commonly misunderstood as a split personality, schizophrenia (though still not definitively understood by researchers) is a biochemical disorder of the brain that can give rise to varying symptoms, such as lack of clarity in thought processes, delusional thinking, auditory and visual hallucinations and emotional and behavioural changes.

Medication is used to regulate the disease, but often isn't able to alleviate all symptoms and can also give rise to serious side effects. "Schizophrenia is a tragic illness for both patients and their families, and treatment hasn't changed much in 50 years," says psychiatry professor Bill Honer.

But recent research carried out by Honer is

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providing hope. In the brain, billions of nerve cells transmit messages to one another via chemical neurotransmitters, a process which is compromised in schizophrenic patients. Each nerve cell is surrounded by a substance called myelin, which plays a role in this communication process. Honer has discovered that people with schizophrenia show a loss of myelin, particularly around the frontal lobe area of the brain. The findings support recent discoveries in gene studies.

His research used magnetic resonance

imaging (MRI) technology devised by UBC multiple sclerosis (MS) researchers to conduct brain scans on 30 schizophrenia sufferers. The scans showed a 12 per cent reduction in myelin – enough to impair brain functioning and cause symptoms such as hallucinations.

Although the cause of the myelin loss is not known, further research by Honer (using post-mortem tissue samples, this time, rather than live subjects) discovered that of the two proteins found in myelin-producing cells, one was present in quantities approximately one third lower than normal in tissue samples from schizophrenia sufferers.

Researchers don't yet know how to reverse loss of myelin, but drugs are currently under development for the treatment of MS, which also involves reduced levels of myelin, that might prove beneficial when applied to the treatment of schizophrenia.

Bill Honer holds the Jack Bell Chair in Schizophrenia and is a member of the Vancouver Coastal Health Research Institute. In future research he hopes to gain insight into how nerve cells communicate with myelin-producing cells, how myelin loss affects brain function and genetic variations in myelin.

Sick Kids' Opinions Count

■ Parents may routinely ask their kids for an opinion on what to have for lunch or where to go for entertainment on a Sunday afternoon, but when it comes to matters of life and death, a child's input on decision-making might be considered less appropriate. Would it still be considered inappropriate if the life in question happened to be the child's?

Pediatric nurse and PhD student Gladys McPherson believes kids suffering from chronic illnesses could be involved in deciding between treatment options a lot more than is typically the case. "Kids' voices often get lost in the dialogue between parents and healthcare professionals," she says.

"Especially in our highly technological medical environment, a child's opinion may be the last thing considered. We have an ethical commitment, however, to make sure that children's perspectives are considered in all matters that affect them." Some may feel an adult's and a child's perspectives would be incompatible, a clash between the child's immediate wants and the parent's perspectives on what's best for their child's longer-term health. But McPherson thinks children's involvement in their own treatment choices could take many forms. "It may be something as simple as being able to say 'I'll take my medicine in 10 minutes – not right now,'" she says.

McPherson is to conduct a study which will involve interviewing 40 kids, aged from seven to 11 and from various cultural back-

Can UBC create your legacy?



Roy Davy thinks so. "Education is the foundation of our society, and knowledge allows us to do great things—like save lives." In 1993, the former construction worker and property manager was diagnosed with a life-threatening illness. Surgery saved his life, and the doctors who cured him were trained at UBC. So Roy put UBC in his will to support deserving medical students so they could learn to save others.

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grounds, with conditions such as diabetes, epilepsy, asthma and rheumatoid arthritis. She wants to grasp how the kids perceive their own role in decision-making on matters that profoundly affect them. She will also interview their parents to find out their opinions on a child's participation in such processes. The study will consider the impact both of the nature of illness and the type of decision being made.

With her findings, she hopes to improve health care for kids by addressing the dearth of advice for health care professionals on understanding and assessing the needs and wants of chronically ill children.

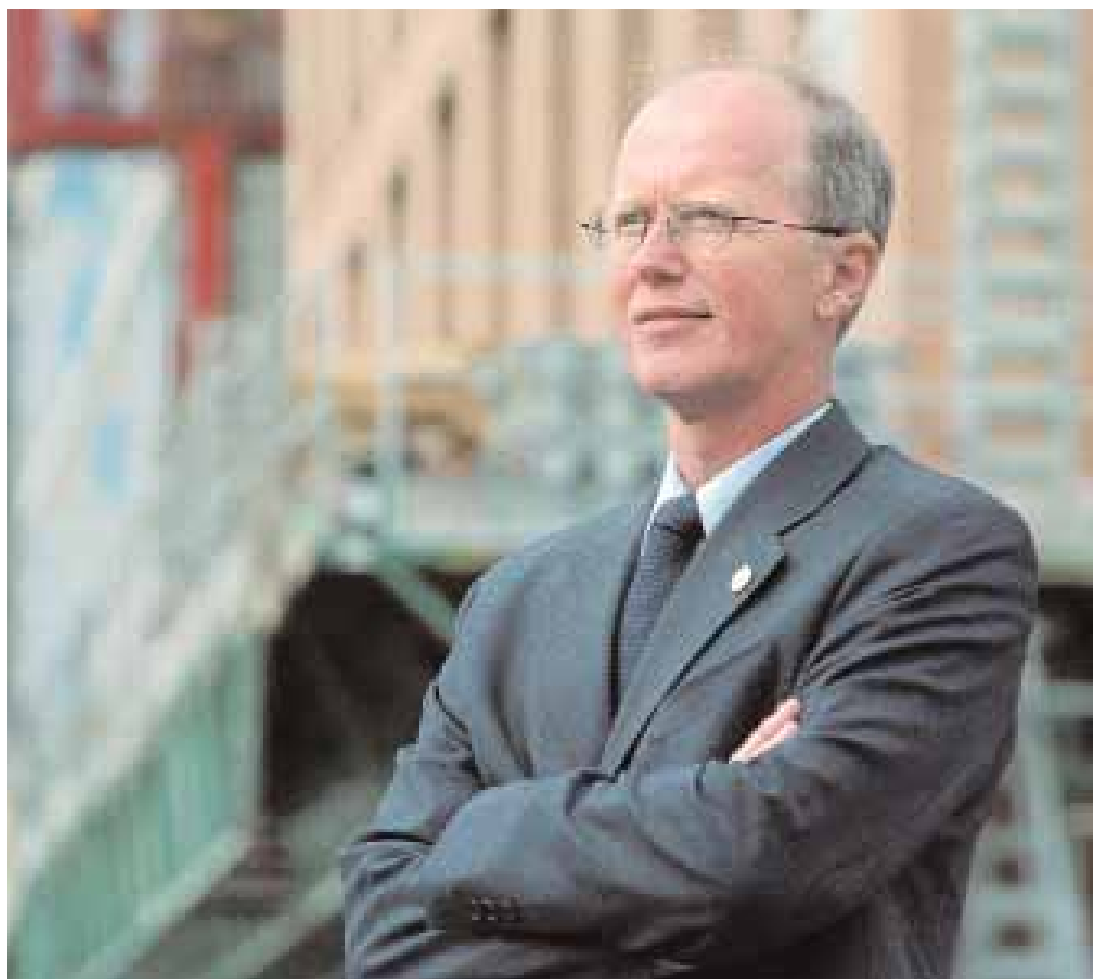
New Dean for Medicine

■ Gavin Stuart, a specialist in gynecological cancers, has been named new dean of Medicine. Stuart, former head of oncology at the University of Calgary, VP of the Alberta Cancer Board and director of the Tom Baker Cancer Centre, will take on the expansion of UBC's medical school under the new 'distributed education' model.

Plans to expand medical training in British Columbia to other universities in the province have been in the works for the past few years. Starting in 2004, medical students will be trained at the University of Northern BC and the University of Victoria, under the auspices of the UBC school. By 2010, British Columbia will graduate 256 medical students, twice the current number, all with degrees from UBC. The model is being developed in Ontario and Quebec as well, but BC's will be in place first.

Stuart will also be responsible for the new Life Sciences Centre currently under construction on campus. The \$110 million facility will integrate life sciences education – from neuroscience to social work – in one area of the campus, and will encourage more interdisciplinary research in the life sciences.

As well as building the school's education program, Stuart is eager to develop more research opportunities in all aspects of the health sciences at UBC. *Trek Magazine* will provide an in-depth look at changes in the delivery of medical training in a future issue.



Gavin Stuart: UBC's new Dean of medicine.

Hip Fractures

■ Specialists spanning many disciplines are collaborating on a research project that seeks to tackle the high incidence of hip fracture around the world, a health problem that scientists describe as epidemic. The project was spawned from an international workshop this June at UBC's Peter Wall Institute for Advanced Studies, an organization which fosters innovative interdisciplinary research.

UBC assistant professor of Family Practice and Human Kinetics Karim Khan is spearheading the project, which involves researchers at home and abroad in disciplines that include law, psychology, and bio-engineering. Tackling hip fracture from a prevention standpoint, the researchers hope to impact the alarming statistics that accompany the condition: a 20 per cent mortality

rate in the first year and a \$650 million health bill per annum in Canada alone. The problem is projected to worsen as baby boomers age, but an ageing population alone cannot account for a rapid global rise in average individual risk. "If the trend continues," warns Khan, "it will choke health systems the world over."

Already established is that a high proportion of hip fractures is associated with the bone-thinning disease osteoporosis. Other factors associated with ageing, such as poor vision and weak muscles, also increase the risk of falling and fracturing a hip. The researchers plan to explore aspects such as poor nutrition and sedentary lifestyles, which contribute to decreasing bone mass. They will also look at lesser explored possible risk factors such as level of education and legal safety standards. The international research project is part of a larger proposal to establish a new Centre for Hip Health, to

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be led by Canada Research Chair Tom Oxland, a biomedical engineering professor. As well as promoting international collaboration in research, the centre will focus on early detection of osteoarthritis, aspects that influence its progression, and genetic risk factors. It will also seek to improve surgical interventions for hip problems.

Domestic Violence Affects Fetus

■ Domestic violence encountered during pregnancy can lead to abnormally slow fetal growth, severe bleeding and premature birth. And the babies of women who suffered such abuse are eight times more likely to die than those whose mothers did not. These startling facts were uncovered over the course of a two-year research project that surveyed 4,700 pregnant women attending two Vancouver hospitals, the largest such study ever published. Co-inves-

tigators Patricia Janssen (assistant professor, department of Health Care and Epidemiology) and Angela Henderson (associate professor, school of Nursing) also found the incidence of abuse increased threefold with pregnant teenagers, and that single motherhood, First Nations origins and low income were common factors in abusive situations.

“This research confirms common beliefs and gives us the scientific evidence we need to leverage practice and policy change in the area of pre-natal care,” says Janssen, who would like to see assessments of domestic violence included in pre-natal exams. “Doctors and other health care providers don’t ask about violence when taking histories from pregnant women. We’re missing an opportunity to intervene early and refer women to appropriate sources.” The research also involved colleagues at the University of Washington and was recently published in the *American Journal of Obstetrics and Gynecology*.

Adult Stem Cells to the Rescue

■ As the human fetus develops, certain cells, called stem cells, are used to shape the various parts of the body. These extraordinary cells combine to become organs, muscle fibre and blood, adapting to the needs of the developing body. Once the body is formed, stem cells seem to lose this versatility. So-called adult stem cells have been thought to be only effective in renewing the tissue from which they originate, such as blood cells, and don’t appear in many parts of the body, such as the heart or spinal cord.

Early experiments with stem cells drawn from aborted or miscarried fetuses showed that these cells could be used to repair a variety of damaged tissues in adults. Ethical concerns around using these cells, and in producing them artificially, have slowed down their utilization in experimentation and in easing human suffering.

Fabio Rossi, Canada Research Chair in Regenerative Medicine, has discovered that adult stem cells produced in bone marrow to renew the blood may be used to repair damaged tissue in areas where stem cells are no longer naturally produced. Rossi extracted individual blood-forming cells from bone marrow and introduced the cells into blood. He found that these cells, as they reproduced, not only produced blood, but repaired damaged muscle tissue as well.

Rossi, who is an assistant professor of Medical Genetics and a member of UBC’s Biomedical Research Centre, says the discovery may lead to therapies for repairing scar tissue that results after a heart attack.

He cautions, however, that such therapies are at least 10 years away, and that the discovery should not be used by opponents of research on embryonic stem cells for political purposes.

Slice of Wood Life

■ One of the stalwarts of the Point Grey campus is a huge slice of Western Red Cedar, lovingly dubbed Stumpy, which has been in a display case in the Biological Sciences building for many years. A rare



The new Building at Vancouver School of Theology at the UBC campus. Photo: Philip Dordick

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specimen, Stumpy is thought to have hailed from a 775-year-old tree felled in the old-growth rainforest of BC sometime in the 50s. It is a near perfect example of a cedar, with no evidence of rot, decay, pest or fire damage. The future of this unwieldy two-metre wide, 585 kg cross section (probably used initially as a teaching aid) came under threat recently when plans arose to renovate the Biological Sciences building.

Led by Associate Professor Gary Bradfield (Botany), Stumpy's saviours decided to scale down the size of the problem by creating a thinner cross-section from the original. The task was carried out by Les Joza, a Sopron forester, wielding a 1.4-metre chainsaw. The new slice is now on display.

Take Note thanks UBC Reports and UBC Public Affairs for allowing liberal adaptations of news articles and media releases.

Stumpy Returns. A slice of a 775 year-old tree is on display at Bio Sciences building.

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