



MEDICINE

Volume 1 Number 2 Winter 2005



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A Publication of the Faculty of Medicine at the University of British Columbia



FACULTY OF MEDICINE

VISION

Empowered by our core values of learning, discovery, integrity, excellence, people and partnership, we challenge the present and champion the future.

MISSION

Together we create knowledge and advance learning that makes a vital contribution to the health of individuals and communities locally, nationally and internationally.

UBC Medicine is published twice a year by the Faculty of Medicine. The publication is meant to serve as an informative source of Faculty news for students, staff, alumni, friends, and supporters. Submissions are welcome.

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Editor: Miro Kinch

Writers:
Mari-Louise Rowley
Pro-Textual Communications
Wendy Soobis
Creative Communications
Mary Anne McEwen
Forward Focus Productions
Barb Daniel

Design: Tandem Design
Associates Ltd.

Principal Photography:
Martin Dee

Additional Photography:
Janis Franklin
Beth Haysom
Trasi Jang
Paul Joseph
Rob van Adrichem

Front cover: Elizabeth Gyde, Daimond
Schmitt Architects Incorporated
Back cover: Martin Dee

MESSAGE

FROM THE DEAN



JANIS FRANKLIN, THE MEDIA GROUP, UBC

Welcome to the second issue of *UBC Medicine*. The first focused on the exceptional level of research accomplishment of some of the Faculty's investigators and their programs. Research is a core pillar of the Faculty of Medicine's strategic plan, as are education, faculty affairs, community, and sustainability. This issue focuses primarily on community.

The community that we serve is broad. It includes our students, staff and faculty members, our partners at the health authorities, and at the Universities of Northern British Columbia and Victoria. It also includes the population of British Columbia—the men, women and children throughout our province whom we serve through the generation of new knowledge and the education of health professionals.

Community engagement is a key theme in this issue. In "Community—Heal Thyself," you will read about some of the ways we are incorporating community-based approaches to improving the health of underserved and marginalized populations into teaching and learning in the Faculty.

"Selecting the Brightest and the Best" introduces you to the very effective program to engage physicians and community members from across the province in the process of selecting students for admission to our MD Undergraduate Program, developed by Dr. Vera Frinton, associate dean, Admissions, and her team.

"Medical Mentors" speaks to one of the great traditions in medical education—practising physicians' vital role as medical students' mentors and supporters.

Another facet of the focus on community is the service to society the Faculty provides through research. "First Do No Harm" reflects the contribution of a group of investigators and practitioners who provide timely, useful interpretation of data on prescription drugs and their application. Safer blood systems is a primary concern of the Centre for Blood Research (page 8), led by Drs. Ross MacGillivray and Dana Devine. The centre is but one example of the outstanding interdisciplinary, collaborative research that will take place under the umbrella of the new Life Sciences Institute. This is a huge opportunity for British Columbia and UBC to generate new knowledge to serve society better.

The brief period since the inaugural issue of this publication has been one of unparalleled progress. On August 30, the expanded and distributed medical undergraduate program was launched, with 200 students in the entry class, 72 more than last year. Students from all three UBC programs—the Island, Northern and Vancouver-Fraser Medical Programs—completed their first semester together on the UBC campus. The Faculty also welcomed the first students in the School of Rehabilitation Sciences' new master's programs in both Occupational and Physical Therapy.

We celebrated the opening of three new buildings. On August 17, the Premier officiated at the opening of

the Northern Health Sciences Centre on the UNBC campus. UBC's Life Sciences Centre opened November 4, followed by UVic's Medical Sciences Building on December 10.

The new year began with the arrival of the first Island and Northern Medical Program students in Victoria and Prince George, to an enthusiastic welcome from their communities. On January 12, the provincial government announced a \$27.6 million investment in academic space at health authorities across BC, providing invaluable support for both our under- and postgraduate students, and our clinical faculty members, in key learning and teaching environments.

A continuing thread in our efforts to serve society better is increasing the number of health practitioners in BC. The expansion and distribution of our under- and postgraduate programs is a major component of this. By offering students the opportunity to study and work in the communities from which they come and/or hope to serve, we greatly increase the likelihood that they will stay and practise in those communities.

As you make your way through this issue of *UBC Medicine*, I hope you will share the sense of accomplishment and progress reflected in these pages. It is our people who make this possible. In each of the pillars of the Faculty of Medicine, people remain the underpinning strength. I invite you to meet an outstanding group of men and women—the students, community volunteers, faculty members, and staff—whose stories appear in this issue. All are part of the teams that create—now and in the future—success in our efforts to serve our community.

A handwritten signature in black ink, reading "Gavin C.E. Stuart MD". The signature is written in a cursive style.

Gavin C.E. Stuart, MD
Dean, Faculty of Medicine

COMMUNITY—

HEAL THYSELF

He's cycled across Europe and worked with local villagers in rural areas of Guatemala and Nepal. He's volunteered at inner-city medical clinics and coordinated educational programs for people coping with financial and social barriers. In between, he completed both an undergraduate and a master's degree, and co-authored five research publications.

Could this be a profile of the 21st century doctor?

Kim MacDonald would like to think so. Now in his first year of UBC's medical school, the seasoned traveller, researcher and educational programmer is an ardent proponent of community service and its role in education. "I strongly believe there is a type of learning and understanding outside of academia that is extremely valuable and comes only through exploration and experience."

That said, one look at Kim's resumé confirms that he values traditional learning and life experience equally: his academic background includes a BSc from UBC in Genetics with honours standing, and a master's degree from UBC in Cell and Molecular Biology, with top graduate recognition. During his university years, he was also a research assistant at UBC's Biotechnology Lab with Dr. James Kronstad, studying the human pathogen *Cryptococcus neoformans*, and at the BC Cancer Agency with Dr. Marco Marra on the Human Genome Project. These efforts led to his co-authorship of five research publications.

Last year he taught Biotechnology for the Public, a course through UBC Continuing Studies. This summer, if all goes according to plan, he hopes to research birthing practices in both rural BC and the western Andes in Ecuador.

But as much as Kim has thrived in an academic setting, it is the insight he has gained from travelling, living in remote corners of the globe and working in the community that has fueled his desire to be a doctor. "The people that I encountered on my travels and in our

communities have transformed my view of the world," says Kim. "Building relationships, meeting people—these aspects of medicine have always been attractive to me."

Ultimately it was UBC's Science 101 program, and the four years that Kim was involved with it—one as a tutor, three as a coordinator—that convinced him to apply for medical school.

Science 101 is a science education program offered to people faced with financial barriers to education, primarily Vancouver's Downtown Eastside residents. As program coordinator, Kim played a key role in designing curricula appropriate to the needs of inner-city residents

between the ages of 17 and 70. The work emphasized bringing people together from traditionally excluded communities to share their experiences, and by all accounts it succeeded in engaging and inspiring the participants.

"Working in education, I recognized just how much self-esteem impacts a person's health. People become stronger and more empowered through understanding and the acquisition of knowledge," says Kim.

It was also around this time, while volunteering at Vancouver Coastal Health's Three Bridges Community Health Centre's needle exchange program on the south side of Vancouver's downtown, that Kim



Kim MacDonald pauses for a moment near the Three Bridges Community Health Centre on Vancouver's downtown south side.

first met Dr. Peter Granger. Peter, who is the physician leader at the clinic and who has devoted his career to community medicine, is also the director of the Division of Inner City Medicine (ICM) in the Faculty of Medicine. The two soon discovered a shared commitment to community-based learning and helping people unleash their potential.

Kim MacDonald and Peter Granger are not alone in their advocacy for community-based learning or the need to better serve marginalized populations. In fact, as early as 1984, the World Federation of Medical Educators was called upon by such agencies as the World Health Organization to reform medical education and improve health care for all populations. The ensuing recommendations were formalized in the 1988 *Edinburgh Declaration*.

The Arizona Charter, a blueprint for incorporating social responsibility into medical school curricula, followed in 1999. It offered a multi-layered plan to "mobilize and coordinate activities to address complex issues associated with the health of the disadvantaged; and to ensure students are appropriately equipped to serve disadvantaged populations, to be community-responsive citizens and to function as agents of social change."

Social Accountability: A Vision for Canadian Medical Schools, prepared for Health Canada in 2002 by representatives from Canada's major medical schools, government and key professional associations, adapted the concepts of the *Arizona Charter* for the Canadian context.

Today, UBC is not only one of the North American universities whose medical schools have embraced these ideals, but it is blazing trails in Canada, with its range of community engagement-focused programs. The Faculty of

Medicine's first step, in 1999, was to create the Integration of Study and Service (IS&S) Committee.

"The goal of IS&S is to help medical students become more socially engaged with the community: to help them learn how to respond to, and be advocates for, specific populations' needs outside a traditional medical setting," explains Vince Verlaan, program manager for Community Liaison for the Integration of Study & Service (CLISS), the operational arm of IS&S. In this role, he is actively involved in building the Faculty's capacity to engage in mutually beneficial relationships with marginalized populations.

IS&S quickly found a supportive ear in BC's provincial Ministry of Health, which recognized the value and importance of the IS&S vision and provided additional financial support in 2001. One result of this support was the creation of the Special Populations Fund (SPF). The SPF is designed to encourage capacity building by responding to the needs of specific populations around the province, such as aboriginal communities and people struggling with addictions.

Since its inception, the SPF has had a major impact on such initiatives. One of its most significant achievements to date has been the establishment, in April 2002, of the Division of Inner City Medicine, under director Dr. Peter Granger. Based out of Three Bridges Community Health Centre, the Division of ICM, in partnership with others, aims to improve the health status of underserved populations in the urban-core communities of BC's major centres through advocacy, research and educational projects.

In addition to spearheading curriculum development and field experiences pertinent to urban underserved populations, the Division of ICM has championed myriad research projects focused on street youth, sex trade workers and the homeless.

Peter has also been very active as the student advisor to CHIUS (Community Health Initiative by University Students), the student-led clinic in the Downtown Eastside. CHIUS is partially funded by SPF, as is the comprehensive educational website developed by the Vancouver Native Health Society, which aims to increase knowledge about aboriginal

health issues particular to Vancouver's inner city.

The Division of ICM and CLISS have also made important contributions to changes in the Faculty of Medicine's two-year Doctor, Patient & Society (DPAS) program, which prepares future physicians to understand and adapt to the changes in health care systems, doctors' roles and the health care needs of the Canadian population and beyond. The essence of the course can be captured in three key words: evidence, context and compassion.

"DPAS was originally intended to explain to students the social aspect of medical care," explains Peter. "We invited representatives from different populations to come and speak. Students heard first-hand about the challenges and problems that underserved groups confront on a daily basis."

Every year, several DPAS students go "on location," so to speak, undertaking their own independent projects with the community. This year, Peter, Kim and Vince joined forces with Margo Fryer, director of the Learning Exchange, UBC's community outreach project on

Vancouver's Downtown Eastside; Gary Poole, director of the university's Centre for Teaching and Academic Growth; and DPAS course directors to make self-directed field study a formal part of the DPAS curriculum. This will mean medical students and residents will get academic credit for their community-based initiatives.

Peter, Vince and Kim are hopeful that DPAS' new direction will give students another useful perspective on how to meet the needs of special populations. If Peter has any advice to dispense to students, it is to look for the underlying causes of a condition, not just its effects. "Our roles as doctors are to care for people," he says, "not to judge them."

Our 21st century doctor couldn't agree more. Says Kim: "Medical students should also learn about health beyond the university campus, in communities. Every community has at its core a complex blend of creative, intelligent, passionate people who instinctively know how to heal themselves. As a future physician, I want to support these communities to help them access the resources they desire to strengthen their health." ■

A shared commitment to community-based learning and helping people unleash their potential: Kim MacDonald (L), Vince Verlaan (R) and Dr. Peter Granger outside Three Bridges.



UBC'S LIFE SCIENCES CENTRE— FAST TRACK TO THE FUTURE

The largest construction project on campus—the 51,000-square-metre Life Sciences Centre (LSC)—was built in only 32 months, on time and under budget. "Not only is it beautiful, and probably the most environmentally friendly laboratory building in Canada, it was built in just over two years at two-thirds the budget for other buildings of this type," says LSC co-director and Zoology professor Hugh Brock.

Prof. Brock and Dr. Alison Buchan, Physiology professor and associate dean, Research in the Faculty of Medicine, headed up an incredibly dedicated and talented team of architects, engineers and tradespeople—a challenging change from their usual academic and administrative duties. The design/build process used for the LSC was radically different from traditional construction, where contractors have a final blueprint and then build to spec. The key to fast-tracking—and keeping costs down—was in the use of generic, flexible lab-space modules. "Building the LSC involved remarkable teamwork," says Dr. Buchan. "We would have a consultation process, make a decision and be able to see the results within three weeks."

Along with two new \$12-million buildings at UVic and UNBC, the \$172-million LSC is part of the BC government's commitment to almost double the number of medical school graduates in the province by 2009. In September, 200 medical students, 72 more than last year, started their first semester in the LSC. In January, 24 students moved to Victoria and 24 to Prince George to continue their studies in the Island and Northern Medical Programs. Of the total building costs, the province contributed \$110 million, and the Canada Foundation for Innovation (CFI) and the BC Knowledge Development Fund each contributed \$13.8 million. The Centre for Blood Research, one of eight research groups in the facility, received an additional \$1.5 million from Bayer Inc. and \$1.5

million from Canadian Blood Services towards LSC construction and equipment.

All labs and offices in the building receive natural light. Two cathedral-like, skylit atria enclose huge gathering and study spaces. Informal meeting areas on each floor overlook both atria halls. The centre's two 350-seat lecture theatres have wood panelling and natural light, and feel surprisingly intimate for their size. They are equipped with sophisticated audiovisual technology for the delivery of interactive lectures to all three sites. There are also flexible high-use teaching labs and 37 problem-based learning rooms.

The Multi-purpose Lab, one of two huge anatomy labs, is fully IT/AV integrated to link to facilities at UVic and UNBC. With one computer for every two students, it can accommodate 256 students at a time. "This has allowed us to revolutionize the way we teach histology," says Dr. Buchan. Instead of a microscope and slides, students at all three campuses will have access to a "digital slide box," so every student will see the same image. "The other advantage is that we can set computerized examinations for 100 students at a time—not only for undergrads, but for board examinations for medical certification as well," Dr. Buchan notes.

LSC Receives LEED Silver

Designed by internationally acclaimed architectural firms Diamond Schmitt Incorporated of Toronto in joint venture with Bunting Coady Architects of Vancouver, the LSC is a model



ELIZABETH GYDE, DIAMOND AND SCHMITT ARCHITECTS INCORPORATED

of environmental stewardship. In the LEED green building rating systems (LEED stands for Leadership in Energy and Environmental Design), the centre has achieved silver certification—a major achievement for a building with so many wet labs and so much energy consuming technology (see sidebar page 7).

Life Sciences Institute—LSC's Research Umbrella

The Life Sciences Institute (LSI) was formed to facilitate research collaboration across disciplines and faculties at UBC, and to become a hub of basic biological research in BC and Canada. The LSI will extend the educational collaboration with UNBC and UVic to include research, and will foster other collaborations with centres and research partners around the world.

Research Groups

The LSI has established eight interdisciplinary groups, including the Centre for Blood Research, that bring together researchers from the faculties of Medicine, Science, Dentistry, Pharmaceutical Sciences, Applied

Science, and Arts to create an exceptional collaborative environment for leading-edge medical and biological research, and to translate this research into new therapies and improved health care.

CARDIOVASCULAR

A key focus of the LSI's Cardiovascular research group is studying how the heart generates, maintains and regulates electrical activity, says Ed Moore, associate professor and Cardiovascular group coordinator. Electrical potential is transmitted across the heart as the cells alternately depolarize and repolarize, due to the coordinated action of a multitude of intramembrane proteins. Any defects in this action can trigger atrial fibrillation and a variety of ventricular arrhythmias.

Cardiology researchers Dr. David Fedida and Prof. Steven Kehl are studying how these proteins function, and what goes wrong to cause arrhythmias. Canada Research Chair Prof. Eric Accili is studying proteins that enable the heart to initiate its own rhythm independently of the nervous system. Drugs that target

these specific proteins are being developed in association with Cardiome Laboratories. "Translating this research from bench to bedside is a primary focus of our group and the LSI as a whole," says Prof. Moore.

The electrical activity in the heart and its strength of contraction are intimately linked, notes Prof. Moore. The electrical activity causes a wave of calcium to be released into the cell, which causes the heart to contract. In order to develop better treatment for heart failure, the cardiology group is studying how the heart regulates the strength of contraction. "The heart has exquisite control over calcium regulation, and understanding the processes involved could have great therapeutic benefit," sums up Prof. Moore.

CELLULAR MECHANISMS OF DEVELOPMENT

The Cellular Mechanisms of Development (CMD) research group—the largest group in the LSI—will consolidate over 37 researchers from the faculties of Medicine, Science and Dentistry. "Whether you are studying the heart, muscles, immune system, nervous

system, or the skeleton, the principle of how all of these tissues develop is pretty well the same," says CMD co-coordinator and Zoology professor Vanessa Auld. "This is the rationale for bringing all of these people together." Researchers in the CMD use model organisms and transgenics to investigate the basic mechanisms that underlie cell development, in order to improve our understanding of human development, function and disease. For example, the developmental neurobiology group in the CMD is working to understand the formation of the nervous system, how the glial and nerve cells communicate to promote cell survival and development, and how nerve cells connect with targets throughout the body. Their basic research will provide the foundation for the development of new therapies for epilepsy, Alzheimer's disease, fetal alcohol syndrome, multiple sclerosis, and other neurodegenerative diseases.

Another key focus of the CMD group is to develop new cancer treatment strategies designed to prevent tumour formation and metastasis. During

MARTIN DEE, TELESTUDIOS PHOTOGRAPHY, UBC



GETTY IMAGES



Premier Gordon Campbell joins students, instructors and the media in the Multi-purpose Lab at the Life Sciences Centre opening on November 4.

cellular development, microscopic architectural scaffolds control cell growth and movement within organs and tissues. Any disruption in this complex tissue architecture can cause cells to grow unchecked, move outside home tissue and invade other organs. Understanding these structural and regulatory molecules, and determining which ones are critical for cell growth and movement within individual tissues, could lead to new cancer treatment that is non-toxic to normal cells.

DIABETES

Diabetes is a chronic debilitating disease that prevents the body from effectively utilizing sugar. It affects over two million Canadians and costs our health care system over \$13 billion per year. Type 1 diabetes strikes mostly children and involves the destruction of insulin-producing cells by the body's own immune system. Type 2 diabetes is typically associated with obesity and results from both insufficient insulin production and insulin resistance. "We still don't understand why some people who are obese develop type 2 diabetes, whereas others do not, or why some slim people also develop the

disease," says Dr. Chris McIntosh, Cellular & Physiological Sciences professor and coordinator of the Diabetes Research Group (DRG). "In the future, we will likely see more preventative therapies aimed at children who are prone to developing type 2 diabetes," he adds. "Of course, the first preventative therapy would be loss of weight and healthier lifestyles."

Current therapies for both type 1 and type 2 diabetes do not adequately prevent debilitating complications in a large number of patients. One focus of the DRG is the study of gut hormones that regulate insulin production and protect insulin-releasing cells against damage. Dr. McIntosh and Dr. Ray Pederson are working with industry to develop novel drugs that extend the life and actions of these hormones. These drugs are now in several phase III clinical trials.

Dr. Alison Buchan also studies the role of the gut in diabetes, and Dr. Tim Kieffer is exploring new gene and cell therapy approaches to increase the blood levels of these anti-diabetic gut

hormones. Dr. Kieffer is also testing the feasibility of directly boosting blood insulin levels by converting gut cells into meal-sensitive insulin "bioreactors," to eliminate the need for insulin replacement by needle injection.

Biochemistry professor Roger Brownsey is studying how defects in fat metabolism might lead to insulin resistance and the inability of the body to adequately use sugar from the blood. Dr. James Johnson is studying genetic and environmental factors that influence the destruction of insulin-producing cells and the development of diabetes. The DRG has recruited Dr. Chris Proud, world renowned for his studies on how insulin works in target tissues. The group is also collaborating with Dr. Garth Warnock and the Ike Barber Human Islet Transplant Laboratory to improve islet transplantation.

IMMUNITY, INFLAMMATION AND INFECTION

The focus of the Immunity, Inflammation and Infection (I3) research group is to understand how our immune system develops and functions to keep the body free of disease. Research done by the I3 group focuses on understanding the

molecular mechanisms involved in cell signalling, cell adhesion and cell migration—critical events required for lymphocytes to become activated and combat infections. The I3 group is also studying the molecular and cellular mechanisms of immune dysfunction that lead to leukemia or to autoimmune diseases such as diabetes and arthritis, which are associated with excessive and inappropriate inflammatory responses. By understanding how immune cells are activated, the I3 group is making discoveries about how the immune system combats specific viral and bacterial infections—research that may ultimately lead to the development of new vaccines for emerging diseases.

The LSC's level III biohazard facility, one of the largest in North America, will attract and enable scientists to study the immune response to specific viral and bacterial infections, with the goal of developing new vaccines for diseases such as SARS, West Nile Virus, influenza, and HIV/AIDS. Two group members, Hung-Sia Teh and François Jean, have a federally funded grant from the SARS Accelerated Initiative. "The new building provides an

JANIS FRANKLIN, THE MEDIA GROUP, UBC

GETTY IMAGES

MARTIN DEE, TELESTUDIOS PHOTOGRAPHY, UBC



The Life Sciences Institute's Steering Committee. Front row (L to R): Christian Naus, Mike Gold, Julian Davies, co-coordinators Hugh Brock and Alison Buchan, Pauline Johnson, Linda Matsuuchi. Back row (L to R): Roger Brownsey, Chris McIntosh, Charles Thompson, Ed Moore, Ross MacGillivray and Lindsay Eltis. Missing: Joanna Bates, Vanessa Auld, Carolyn Brown, Bill Mohn, Bill Milsom, Rob McMaster.

Medical Undergraduate Society President Kyle Kirkham's way with words on November 4 brings a smile to the faces of our distinguished guests, including Musqueam Elder Larry Grant, Premier Gordon Campbell and UBC President Martha Piper.

FACTS & FIGURES

- The LSC is 51,000 sq m (548,000 sq ft), or the size of six Canadian football fields—including end zones.
- It was built at a cost of \$210 per sq ft versus \$300 per sq ft for similar research/teaching facilities—40 percent less than the North American average.
- It will accommodate 2,900 people: medical students and professors, research assistants, graduate students, and facilities and administration staff.
- The LSC will house one of the largest level III biohazard facilities in North America.
- The LSC's energy-efficient design will save about 5.5 million kilowatt hours every year, or about \$200,000. This includes space configuration to maximize use of natural light, automated lighting controls, heat recovery units on all exhaust systems, advanced heating, ventilation and air conditioning systems, and fume hoods with reduced flow rate technology.
- Water conservation strategies, including dual-flush toilets and sensor-controlled faucets, reduce water usage by 50 percent over baseline.
- The waste management plan implemented during construction ensured that 80 percent of the 1.5 million kilograms of generated construction waste was recycled or salvaged.

THANKS AND KUDOS TO:

- Jack Diamond and Diamond and Schmitt Architects (Toronto)
- Tresa Cody and Bunting Cody Architects (Vancouver)
- Murray McKinnon, Andy Tallentire, Richard Shipway, and Ledcor Construction Limited
- John Cordonier, Project Manager, UBC Properties Trust

opportunity for immunologists, virologists, microbiologists, biochemists, physiologists, and cell biologists to all work together in one facility, sharing ideas and expertise," say I3 coordinators and Microbiology & Immunology professors Mike Gold and Pauline Johnson.

BACTERIAL ADAPTATION AND RESPONSE NETWORKS

Microbes are far more diverse than any other group of organisms. "All the animals in the world have less diversity than a single division of bacteria," states Microbiology & Immunology professor Bill Mohn, coordinator of the Bacterial Adaptation and Response Networks (BARN) research group. The underlying science and methods for studying how bacteria adapt and respond to their environment are the same, whether they are in a laboratory, a natural environment such as a forest floor, or in the human body. "Bacterial responses involve networks of genetic regulation, protein interactions, and in some cases networks of organisms in complex communities," he says. "The level of the network is where many of us are working to understand the fundamental processes of bacteria, which drive the fundamental processes of the biosphere."

As one example of a collaborative project within BARN, Julian Davies, Lindsay Eltis and Bill Mohn are involved in a genomic investigation of the soil bacterium, *Rhodococcus* (RHA1), which can synthesize molecules that may have therapeutic and other uses. "By understanding why this happens in nature, and how it is controlled, we improve our ability to develop this organism as a host for discovering and producing useful and valuable compounds," says Prof. Mohn. Other members of the group are studying *Bordetella pertussis* (whooping cough), *Campylobacter* (found in raw poultry and a cause of food poisoning), and various aspects of antibiotics.

GENES, DEVELOPMENT AND HEALTH

The study of cancer is also a focus of the Genes, Development and Health (GDH) research group. "Cancer



The Life Sciences Centre from the west.

and inherited diseases arise because of alterations in genetic information, or how this information is controlled," says group coordinator and Medical Genetics professor Carolyn Brown. Some disease is a result of a genetic mutation inherited from a parent, but there are also changes that are passed from one cell to another. "Cancer is our best example of this because so many genes go awry," she says.

Researchers in the GDH are studying fundamental questions about how genetic defects lead to disease, and how these defects can be cured. For example: How do cells know which genes should be on and which ones should be off? Why do certain cells commit to becoming liver or blood cells, while others remain stem cells? "We have the sequence for all of the genes in the organisms we are studying, but we don't yet know why some are expressed at certain times and why others remain silent," says Prof. Brown.

GDH research is also directed at understanding developmental disorders, AIDS pathogenesis, and mental health disorders such as depression, schizophrenia and autism.

Members of the GDH exemplify the collaborative mandate of the LSI. They include Louis Lefebvre, Canada Research Chair in Genomic Imprinting, Ivan Sadowski, a senior scientist for the National Cancer Institute, LeAnn Howe, Michael Smith Foundation for Health Research scholar, and Tom Grigliatti, Zoology professor and CEO

of InCell Expression Systems, a Vancouver-based biotechnology company.

DRUG DESIGN AND TARGET IDENTIFICATION

Researchers in the Drug Design and Target Identification (DDTI) group study cancer, microbial infections, antifungal and antibiotic drugs, and drug delivery systems, and are working to discover new proteins that will serve as effective drug targets.

In one area of the DDTI's research, Biochemistry professor Michel Roberge, Chemistry professor Raymond Anderson and their colleagues have identified chemicals that block the division of cancer cells and also cause the vasculature of a tumour to collapse. The group has been working on a new cancer drug developed from a marine sponge extract. The compound, HTI-286, was licensed by UBC to Wyeth Pharmaceutical Company. It has been shown in animal models to be active against many kinds of cancer, and it is currently in clinical trials.

Many of the DDTI's eight members have well-established collaborations, and work with researchers in Canada, the US and Europe. "We have a common goal of identifying chemicals and biological systems that could lead to new drug therapies," says Prof. Roberge. "Having everyone together in one facility will assist the exchange of ideas and accelerate discovery." ■

CENTRE FOR BLOOD RESEARCH— DESIGNING SAFER BLOOD SYSTEMS

Blood transfusions are the “gift of life” for thousands of accident victims, surgery and transplant patients, and people with blood disorders. Tragically, that life-giving image was tainted during the blood scandal of the 1990s. As a result of the Krever Commission, new agencies such as Canadian Blood Services—today a key partner with UBC’s Centre for Blood Research (CBR)—were established to ensure that Canada has one of the safest blood supplies in the world.

Funding for blood research, development and training was also increased, notes Ross MacGillivray, Biochemistry professor and director of the Centre for Blood Research. “There simply weren’t enough transfusion medicine scientists being trained in Canada to keep the blood system cutting edge,” he says. Training new blood researchers is a key focus of the CBR.

With over \$15 million in infrastructure funding from the Canada Foundation for Innovation, BC Knowledge Development Fund, Canadian Blood Services, Bayer Inc., and UBC (Blusson Fund), and additional funding from the Michael Smith Foundation for Health Research, and the CIHR and Heart and Stroke Foundation of Canada Strategic Training Initiative in Transfusion Science, the CBR is one of largest research groups in the Life Sciences Centre (LSC).

Occupying two-thirds of the fourth floor of the LSC (roughly 35,000 sq ft), the CBR has fourteen resident principal investigators and a total of 33 UBC researchers along with their staff and trainees. The CBR is also one of the most interdisciplinary groups, with members from the faculties of Science, Applied Science, Medicine, Dentistry, Pharmaceutical Sciences, and Arts. “The CBR includes social scientists and psychologists to help determine the social factors involved in donating blood, and what we can do to increase

donations,” says Prof. MacGillivray. “While the demand for blood products continues to increase, the number of donors has declined,” he adds. “Only 3.5 percent of Canadians donate blood on a regular basis, and it varies by social background.”

After collection, whole blood is separated into its components—red blood cells, platelets and plasma—that are then used to treat a variety of conditions. Red blood cells carry oxygen to tissues; platelets initiate clotting and control bleeding; and plasma, a liquid containing proteins that fight infection, promotes clotting and distributes nutrients.

Blood plasma also transports waste products to the lungs, liver and kidneys.

These components represent only a fraction of the whole blood collected, however. One focus of the CBR is to discover new blood products to add value to the portion of donated blood that is currently discarded. Researchers are working with Bayer Inc. to discover new blood proteins or peptides that could have therapeutic value.

The CBR’s long-term approach is to develop blood substitutes to decrease the need for donated blood, and to develop artificial blood components that would eliminate the need for donated blood products altogether. For example, platelets have a shelf life of only five days. Dr. Dana Devine’s laboratory is working to develop artificial platelets to increase the storage period.

Dr. Mark Scott, recruited to the CBR from Albany Medical School in the US, is a leading researcher in immunocamouflage. This process uses polyethylene glycol (PEG), a non-toxic, water-soluble polymer, to mask antigens in blood cells, platelets and islets in order to inhibit immune recognition and, ulti-

mately, immune rejection. PEG has already been approved in certain products for human administration. “If someone came in with a rare blood type, immunocamouflage could convert any unit of blood to a usable transfusion,” says MacGillivray.

Albumin is a blood protein that regulates osmotic pressure to keep cells full of water, as well as transporting fatty acids and various hormones. Many transfusion patients, such as burn victims, require albumin rather than red blood cells or platelets, notes MacGillivray. Extracting albumin is expensive, however, and current substitutes do not transport other molecules, a critical function of albumin. In conjunction with Bayer, Chemistry professor Don Brooks is working to develop a unique polymer that would be a safe, effective and inexpensive albumin substitute.

“Lack of supply and donor pathogens are the key challenges to blood systems,” says Prof. MacGillivray. “Our ultimate goal is to eventually bypass donor blood completely.” ■



CBR researchers Dr. Dana Devine, Director of Research and Development, Canadian Blood Services, and Dr. Maria Issa.

PAUL JOSEPH, KALDOR DESIGN

SELECTING THE BRIGHT

AN INNOVATIVE APPROACH TO MEDICAL



TRACSI JANG, TELESTUDIOS PHOTOGRAPHY, UBC

Health Services Minister Shirley Bond (then Minister of Advanced Education) greets members of the 200-strong Class of 2008 on their first day in session at UBC.

How do you choose 200 students from a field of 1,300 applicants? How do you identify students who are likely to enjoy and be successful in remote or rural areas? Does including non-medical academics and community members on the interview panels help or hinder the process?

"Candidates are evaluated equally on academic and non-academic criteria," says Dr. Vera Frinton, associate dean, Admissions. "Within the online application, for instance, we have questions which are geared to determining if they are suitable for training in the North or in remote communities. Everybody answers those questions. The interview process helps us identify those who have the motivation, personality and communication skills to become good physicians."

Over 500 applicants were invited to be interviewed by a three-member panel comprised of a medical doctor, an academic and a community member. Over 100 people were recruited to

serve on the panels, and care was taken that each panel had representatives from different areas of the province.

All panel members received training in the interview process, and had a practice run scoring a first-year medical student based on a videotaped mock interview. During the actual interviews, panel members took turns asking questions, scored students individually, and then discussed their scores with the aim of reaching full consensus.

"Having worked in solo general practice, I'm more acutely aware of some of the requirements of small town or rural general practice than someone from a larger centre might be," says Dr. Eric Olson, a retired physician from

Cowichan Lake. "I think that this process is designed to find the best candidates and eliminate the chance of bias."

"In this process, you have pluralism from a point of view not just of people, but from the stakeholders' perspective. It's extremely important that the university be fair and equitable, and it's just tremendous to be part of a process that's so nicely balanced," says Dr. Martin Adamson, professor of Zoology at UBC.

Joyce and Allen Anderson both graduated from UBC (he in Civil Engineering, she in Home Economics), and participated on separate

panels as community members. "Our eldest son is in the medical profession, so I've seen first-hand the kind of pressures, long hours and years of training required to become a physician," says Joyce. "It was thrilling to see the passion that these students have for this profession. The interview process was so well designed that every student could be assured that they had all been treated exactly the same. We thoroughly enjoyed it."

Allen Anderson spent most of his working career in training and education, running the School of Advanced Management in Banff. "Over the past ten years we've had a lot of exposure to the medical community through family illness, and volunteering our time and expertise was a way to pay back

EST AND THE BEST—

SCHOOL ADMISSIONS

for the care and support we've received," he says. "We want to make sure that everyone who goes into medical school becomes a good doctor."

Each panel interviewed five applicants a day for four days, and spent evenings reading background material on the next day's interviewees. All panel members remarked that they were pleasantly surprised at how often they were in full agreement with their colleagues. If consensus could not be reached as to a student's suitability, it had to be noted and explained in detail.

Dr. Michael Pilgrim, who practises in Dawson Creek, is dedicated to directing people toward rural medicine. He found the panel interview process a big improvement. "When I applied to medical school, it was horrendous going to one-on-one interviews all over town," he recalls. "I like the idea of asking specific questions and looking for specific answers. It's fair."

Bruce Strachan, who has served as both Minister of Advanced Education and Minister of Health, saw an advertisement in the local Prince George newspaper and volunteered immediately. "I thought this would be a really good way to take part in what is a brand-new experience for medical education in Canada," he reports. "The students all had first-class backgrounds by all measurable standards. We had to get to the un-measurable—ethics, compassion, bedside manner—the human quality of the candidate. I found it intriguing and thought it worked well."

High Marks from Students

Violet Hung took her degree in Kinesiology at SFU, worked in oral cancer research, and loves bungee jumping and competitive boxing. At 16, she volunteered to work with neurologically damaged children,

and became determined to study medicine. But she was knocked out on her first attempt to get into UBC's medical school.

"The scores differed quite a bit between the two interviewers I had last year," she recalls. "The panel interview was definitely a lot fairer, more objective, the questions more appropriate. I added some minor details to my second application, but there wasn't a major change. I'm sure it was the interview process that made the difference." She is now part of the Island Medical Program (IMP) in Victoria.

Maya Adam grew up in Cape Town, South Africa, and in Vancouver, left home at 17 and spent ten years as a professional ballet dancer in Germany. In order to better understand her tool for dance—her body—she began taking courses in physiology and anatomy through SFU's distance education program, and found it so interesting she decided to switch careers. After getting a degree in



Maya Adam (above)

Human Biology from Stanford, she applied to three medical schools—Cornell, NYU and UBC—and got interviews at all three. "UBC's interview process was much more standardized,"

she says, "with very specific questions. It's a little less personal, you can't express quite as much of who you are, but the degree of fairness of the admissions decisions is improved." Maya is now a student in the Vancouver-Fraser Medical Program (VFMP).

Raised in the Kootenays, Dave Sonnichsen was 32, married, a journeyman carpenter, and had run his own business for ten years when he decided to pursue his dream of going into



Violet Hung (left) and Dave Sonnichsen (right)

medicine. He ended up back in Grade 11, retaking all his high school maths and sciences. After completing a degree in Kinesiology at the University of Calgary, he also applied to three medical schools. Dave was accepted into the Northern Medical Program (NMP).

"One of the things that really appealed to me about UBC was the opportunity to be trained as a physician in a smaller community," he admits. "Just 24 classmates, the attention you get in smaller classes, topnotch instructors, lots of opportunity to ask questions—it's really quite a unique situation. And the community support up in the North is just unbelievable."

Dave found the selection process extremely positive and very welcoming. "They went out of their way to make you feel comfortable," he says. "I felt I was able to show them who I am as a person. That may be more difficult in one-on-one interviews, where there is a greater potential for error if there's a personality conflict."

Dave and fourteen other students attended the grand opening of UNBC's new medical facilities in August, and bonded immediately. "Some people say that we're guinea pigs; others say we're pioneers," he admits. "I prefer the latter."

The pioneering students in the Northern Medical Program tend to be older, more mature, and have roots in smaller communities or be settled with a family. They display qualities of self-reliance and the ability to take risks. "We have an NMP Admissions Subcommittee that determines which students would be most appropriate for training at the new facilities in Prince George," says Dr. Frinton. "The students rank where they would like to train, and almost all (88 percent) who are going north in January had indicated it as their first choice."

"In the end, it's the students who decide where they want to study," says Dr. Frinton. "Our role is to make sure that they are seen and heard by interviewers who come from many different backgrounds and locations and reflect the province's diversity in the perspectives they bring to the process. Both students and interviewers felt it was very fair and open—and I'm delighted to report that many of this year's interviewers have already signed up for the next round." ■

Dr. Ethlyn Trapp



Dr. Josephine Malleck

MEDICAL MENTORS— CREATING A LEGACY OF INSPIRATION AND SUPPORT

When Margaret (Peg) Cox applied to the new UBC medical school in 1950, her hopes were not high. She was competing with many qualified candidates, including war veterans with advanced degrees. Originally, she had planned to be a nurse, but summer jobs at St. Paul's Hospital and Essondale psychiatric hospital raised her sights. She wanted to make major medical decisions. She wanted to lead procedures. "I realized that what I really wanted was to be a physician," she wrote in a memoir of her first year in medical school.

Three women were admitted to that first class of 60 students. "Fees were \$800 a year," says Peg, "which was all a woman could earn in a summer. I had to look for other means to pay for books."

The future Dr. Cox needed financial support—and more. She and her two female colleagues needed mentors and role models. Fortunately, many women doctors in the Vancouver medical community were ready to step in. They opened their homes to the younger women, organized regular get-togethers and offered nourishment for the hungry students' minds as well as their bodies.

In a recent reminiscence in the *Globe & Mail*, Peg wrote about one of those mentors, Dr. Josephine Malleck, the first woman doctor at St. Paul's Hospital, and president of the Vancouver Medical Association from 1989 to 1991. "She was very extroverted, successful in her field of endeavour—a reaching-out sort of person, with a wonderful sense of humour," says Dr. Cox. "Those of us who were fortunate enough to graduate in Medicine at UBC included many who benefited from Dr Malleck's kind interest and faith in us as potential physicians."

Another influential mentor, Dr. Ethlyn Trapp, was president of the National Cancer Institute of Canada when Peg Cox was in medical school. In 1952, Dr. Trapp gave the Vancouver Medical Association's Osler Lecture, the first woman ever invited to do so.

Dr. Trapp, a pioneer in radiation therapy in Canada and the first woman president of the BC Medical Association, was one of several accomplished women radiologists who mentored young female medical and pre-medical students over the years. Her many accomplishments included extensive international study and travel and several

degrees, including—eventually—an honorary one from UBC.

Both Ethlyn Trapp and Josephine Malleck were actively involved in the Federation of Medical Women of Canada (FMWC). Dedicated to advancing the interests of women in medicine, the FMWC has played a vital role in mentoring and supporting generations of young women doctors. At UBC, medical students have been able to count on the BC branch's Ethlyn Trapp Memorial Scholarship for financial support for over 30 years.

A New Era

Times change, needs change and the relationship between benefactors and beneficiaries changes too. In the '80s and '90s, treasurer Beverly Tamboline (MD '60) was responsible for delivering the Federation of Medical Women's annual cheque to the UBC Development Office. On one of her visits, UBC Fund manager Leanne



Bernaerdt suggested that rather than bringing a cheque to campus year after year, the FMWC might consider endowing the scholarship—donating sufficient capital to fund the award with the annual interest. "We thought it was a very reasonable way of ensuring that the scholarship would go on in perpetuity, even if our finances changed. And we realized that it could grow," recalls Dr Tamboline, whose long-term commitment to the FMWC's ideals includes serving as president, both locally and nationally.

This decision led directly to another. Changing the scholarship from annual to endowed meant it would be subject to the anti-discrimination provisions of the *Canadian Charter of Rights and Freedoms*. Women were no longer under-represented in medical schools across the country, so the members of the BC branch of the Federation of Medical Women faced a momentous decision. They could endow the scholarship, and open it up to all medical students, or they could choose not to endow it, and maintain the status quo. They chose the former, and rewrote the terms to make the award available to any medical student who demonstrated an interest in women's health.

In 2003, the scholarship for the first time went to a male medical student. Alon Altman grew up in Vancouver, and is now a first-year obstetrics/gynaecology resident in Halifax. "I appreciate the scholarship," he says. "Any type of help is fantastic—but I felt really honoured when I found out I was the first male recipient of the Ethlyn Trapp."



Alon Altman

JANIS FRANKLIN, THE MEDIA GROUP, UBC

Another recipient is Lilli Kerby, from Rossland, BC. Lilli earned her undergraduate degree in Biochemistry at UBC in 1998, then went to China to teach English for a year and a half. Home again, she worked at the Cominco smelter in Trail, researching the use of micro-organisms in leaching ore.



Lilli Kerby

JANIS FRANKLIN, THE MEDIA GROUP, UBC

But Lilli was drawn to medicine. "I've always been interested in science and the body—humans and how they work," she says. Lilli is a country girl who

FACTS & FIGURES

Most medical students are unable to avoid a heavy debt burden.

According to Rosemary McCutcheon, student financial assistance officer for the Faculty of Medicine, the cost of education and living expenses for a first-year medical student can be as high as \$38,000. The maximum government loan a first-year student can receive is \$10,725, far short of the \$14,000 annual tuition. Even if the student is able to cover the difference with savings from a summer job—which would be highly unusual—he or she still has to find another \$24,000 to get through the year.

Unlike most other university students, medical students today have reduced or minimal summer breaks, which seriously limits their earning potential.

The decision to work during breaks in the program can be a difficult one. Students frequently face serious competition for coveted residency positions, and one way of improving their chances is to take every opportunity to do volunteer health care work or to take electives in that specialty. Simply put: the choice is often between reducing their debt load and improving their resumés.

How do students manage? Currently, they rely on bank lines of credit. "This puts the students in a more tenuous position than borrowing from the government. Interest is charged as soon as they begin to use these funds, unlike government student loans, which delay charging interest until schooling is finished. In addition, borrowing from the bank can be more risky as banks always have the ability to change their terms and credit policies," says McCutcheon.

She estimates that students now entering medical school, whose families cannot afford to assist with the cost, may face a debt of between \$100,000 and \$130,000 by the time they graduate.

would like to end up in a rural practice. She wants to stick close to home and her large family, and to continue pursuing the outdoor activities she loves, especially field hockey and skiing. "This way I'll be doing a challenging, rewarding job where I want to be."

The Ethlyn Trapp Memorial Scholarship makes medical school financially feasible for Lilli, who is now in her fourth year. "It's quite expensive going to school," she says. "Also, it's great to be recognized and to know there are people out there investing in the doctors of the future. Hopefully, one day I'll be able to give back as well," she adds, acknowledging the tradition she is benefiting from now, as a medical student, and that she will continue to be a part of as a practising physician.

Passing the Torch

"The young women now are confident," says Dr. Eileen Cambon, BC's first woman ophthalmologist, who is writing a book, *Medical Women of British Columbia: A History from 1893 to 1993*. "They can speak with full voice, whereas we didn't want to upset the

apple cart." An honorary UBC medical alumna, she recognizes that while conditions for women medical students have changed over the years, the challenge of affordability—for women and men alike—has not.

As tuition skyrockets, the number of medical students from lower-income families drops just as precipitously. A recent University of Western Ontario study found a decline greater than 50 percent in students from households with incomes under \$40,000. If this trend continues, only students from wealthy families will be able to pursue their dreams of becoming this country's future physicians.

Ways and means have changed over the years, but the willingness of doctors to help students remains constant. Medical students will always need the help of mentors and supporters—the physicians in whose footsteps they plan to follow. ■

FIRST DO NO HARM— CAN WE TRUST THE DRUG COMPANIES?

With the recall in September 2004 of Vioxx®, a top-selling arthritis pain medication that was found to increase cardiovascular problems, and a US congressional hearing into how the drug's safety was evaluated, a UBC initiative dedicated to disseminating evidence about drug therapies couldn't be more relevant.

Under the direction of Dr. Jim Wright, a professor in the departments of Pharmacology & Therapeutics and Medicine, the Therapeutics Initiative (TI) has been providing physicians and pharmacists with up-to-date evidence on the effectiveness of prescription drugs for ten years.

In fact, the current issue of the group's newsletter, *Therapeutics Letter* (which has a circulation of 10,000), addresses the storm of uncertainty surrounding the class of drugs called COX-2 inhibitors. Used to treat inflammation, the class includes Vioxx® and Celebrex®.

The newsletter focuses on COX-2's product monographs—legal documents written by drug companies to list pertinent data, including potential benefits and harms. The newsletter reported that the monographs may not adequately inform of harms and that they provide insufficient information as to whether COX-2s increase myocardial infarction or other cardiovascular events.

"We've been looking at this class of drugs for several years now," says Wright, a faculty member since 1977. "Our work nearly always surrounds medications, like these ones, that are widely prescribed but which have uncertain therapeutic value. Our efforts frequently put us at odds with drug companies."

Started in 1994 with a five-year annual grant of \$540,000 from BC's Ministry of Health (MOH), the TI is now operating on a three-year, \$1 million per annum

grant from MOH. The group reviews evidence of effectiveness for drugs prescribed for everything from male pattern baldness to depression in children and adolescents, and is one of only a handful of such groups in Canada.

In addition to provincial work, TI members also complete one-quarter to one-third of the federal government's common drug reviews, a year-old process overseen by the Canadian Coordinating Office for Health Technology Assessment.

"The main challenge in our work is getting to the truth," says Wright. "It's been estimated that about 90 percent of the published literature may be biased by economic interests."

Dr. Warren Bell, a general practitioner in Salmon Arm, BC, says he uses the newsletter "for clarifying and interpreting the relentless propaganda of the drug industry," and adds that he has formed a number of prescribing practices directly out of the pages of the letter.

The largest working group in the TI is the drug assessment group, headed by Ken Bassett, a faculty member in the Department of Family Practice and the Centre for Health Services and Policy Research at UBC.

Some of the 30 assessments completed annually are triggered by new drug submissions to PharmaCare, the province's drug subsidy program. TI researchers review the submissions, evaluate evidence of the drug's

therapeutic advantage and report back to government and, in a summarized fashion, to practitioners via the newsletter. Physicians and pharmacists also learn of critically appraised evidence through annual drug therapy courses and numerous interactive seminars.

The TI's evaluation group measures the impact of these education efforts on prescribing patterns and assesses how drugs are being used. It also uses provincial health databases to learn the impact of drug prescribing patterns on patient health outcomes.

A challenge for the group is a perception that the TI may not be independent from the provincial government's interest in decreasing costs of PharmaCare. Wright counters by saying that TI reviews and reports to government don't include cost data and are limited to evidence of drug benefits and harms derived from clinical trials. PharmaCare includes TI reports as just one of the pieces of information it uses to make funding decisions, he adds.

Internationally, many TI members are actively involved in the Cochrane Collaboration. Named for Archie Cochrane, a British medical researcher, epidemiologist and advocate of rigorous reviews of health intervention evidence, the collaboration is an international organization dedicated to making available reviews of the effects of health care treatments and therapies. ■

Media regularly seek the expertise of Therapeutics Initiative director Jim Wright. Some of the media outlets where he has been quoted recently include Business Week, CBC TV, Forbes.com, National Post, Newsday, and Toronto Star.

For more information on the TI, visit www.ti.ubc.ca

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MARTIN DEE, TELESTUDIOS PHOTOGRAPHY, UBC

Our Northern and Island Medical Program students in their new homes on the UNBC campus (below) and the UVic campus (above) on January 10.



Medical Sciences Building



Northern Health Sciences Centre



ROB VAN ADRICHEM

BETH HAYSON

COURTESY OF CHERNOFF THOMPSON ARCHITECTS

OUT AND ABOUT

UBC's new entry-level professional programs. The new Masters of Rehabilitation Science (MRSc) program admitted its first students in January. Developed by associate professor Sue Stanton, the online, non-thesis master's degree is accessible from any location and can be tailored to meet rehabilitation professionals' workplace/career needs.

In the North / On the Island

Northern and Island Medical Program students are a well-travelled group—before they made their way to Prince George and Victoria for the first day of classes on January 10, many of them made early visits to their new academic bases to participate in the openings of UNBC's new Northern Health Sciences Centre (August 17) and UVic's new Medical Sciences Building (December 10). The two buildings are very different, but both feature BC wood in their design, and meet high environmental standards. Sophisticated and flexible audiovisual and e-learning technology allows for interactive and simultaneous learning and teaching at all three of the distributed program's university campuses.

In October, all 24 NMP students joined about 450 local physicians and NMP supporters for the inaugural Bob Ewert Memorial Lecture, named for a prominent northern physician. The event was both a social event for local doctors and a fundraiser for the Northern Medical Programs Trust, a partnership between northern BC communities and UNBC to raise endowed financial support for future NMP students. About \$70,000 was raised, including a contribution of \$20,000 from the Ewert family. Dr. David Snadden, the head of the NMP, was the keynote speaker. The Northern Medical Society also covered the flights for the students, who were billeted with local physicians.

In Health Authorities Across BC

On January 12, Premier Gordon Campbell announced a \$27.6 million investment to provide academic space at health authorities across the province, to support the increasing number of both undergraduate and postgraduate UBC medical students. "By next year we will have almost doubled the number of undergraduate medical students in an expansion that is leading the way in Canada," the Premier said. "This funding follows through to ensure the infrastructure is in place at clinical facilities everywhere from Vancouver Island to northern BC where our medical students complete their hands-on education."

This addition to our academic space in the provincial health authorities will increase the size of UBC's Clinical Academic Campuses to almost 1,000,000 square feet, second only to the Faculty's space on the Point Grey campus.

The School of Rehabilitation Sciences

On August 25, the school welcomed the first students into the Master of Occupational Therapy (MOT) and the Master of Physical Therapy (MPT) programs,



Alumna Sylvia Ommanney opens the new Seaview Learning Centre on December 2.

MARTIN DEE, TELESTUDIOS PHOTOGRAPHY, UBC

The school's new Seaview Learning Centre, made possible by the generous support of donors, the Faculty of Medicine and the Ministry of Health, held its grand opening on December 2. Access to the Internet, projection systems, video/DVD equipment, and a host of other educational resources in the centre, such as bones, anatomical models, CD-ROMs, books, and other items, will enhance the learning process for all students.

The School of Audiology and Speech Sciences

Congratulations to Prof. Judith Johnston, who in November received Honours of the Association, the highest honour the American Speech-Language-Hearing Association (ASHA) gives. "Dr. Johnston is renowned internationally for her work on children's language impairments. According to colleague and former student Ron Gillam of the University of Texas at Austin, the 'depth and breadth of her research' over the past 35 years places Johnston among the world's top scholars in the field of child language disorders," the ASHA website reports.

Calling All Medical Alumni: Help Make History!

Memoirs, mementoes and memorabilia are the heart and soul of the stories that one generation tells another—but it's far too easy to put off collecting them before it's too late. Drs. David Hardwick (MD '57) and Chuck Slonecker are spearheading a drive to collect those invaluable, personal archival materials for the first 50 years of the medical school at UBC. A key part of the project is to recruit volunteers from each class to act as archivists. On board already are Dr. Margaret (Peg) Cox, for the Class of '54 (see page 11), Dr. Phil Narod, Class of '55, and Dr. F.D. (Blackie) Forbes, Class of '57. If you can see yourself "making history" as your class' archivist, or have personal materials to contribute, please contact Chuck Slonecker at 604-263-7433, or Miro Kinch at 604-822-5543.



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