

Health Sciences Centre - UBCO

BY SUSAN M. BOYCE

"To the inquiring mind, all the world is a laboratory." This saying, attributed to the American physician Martin H. Fischer, could well be the vision: the subtle yet powerful foundation of a new way of learning that's gaining strength at the University of British Columbia Okanagan (UBCO) campus.

Here, it's not just about education: an environment that fosters a passion for learning is as highly valued as expert instruction. Cutting-edge technology encourages a diversity of learning styles unimaginable to previous generations, and students are encouraged to interact with faculty, visiting experts and one another in the learning process.

The starting point was a provincial initiative to expand UBC's medical program by creating opportunities for more students to train in areas outside the Vancouver campus. First came satellite schools of medicine in Victoria and Prince George. Then came Kelowna, where a state of the art teaching facility is nearing completion. When it welcomes faculty and staff early this spring, the UBCO Health Sciences Centre will be the third of this new breed of educational building on campus – following the visionary Charles E. Fipke Centre and last year's Arts and Sciences Building.

From the beginning, the Health Sciences Centre was no ordinary education facility. "It's extremely rare for the government to provide all funding – typically it would be a combination of funding from the provincial government, the university itself, and often a donor component," says Nick Maile, development manager at UBC Properties Trust. In this case, BC pledged the full \$32 million required.

Located on an undeveloped part of campus known as the Health and Wellness Quadrant, the structure's central feature is a dramatic three-storey atrium that separates the building from the two lecture theatre. The ceiling is finished with one-by-four yellow cedar found in smaller displays throughout the campus. A frit glass pattern reminiscent of an abstract tree branch provides solar shading for people socializing in the public spaces and privacy for people working in adjacent open office or research areas.

Originally, upright steel columns were planned as the atrium's structural support – a heavy-looking if tried and true technique. "However, by inking the columns and inducing tension restrained by lightweight steel rods, we were able to reduce the diameter of the member by more than 50 per cent," says Michael McColl, principal of Stantec Architecture Inc. The

resulting visual lightness and rhythmic angularity echoes the look of BC's many historic railways while introducing a distinctly modern esthetic. "Creating a balance between privacy, openness and shading, which is extremely important in this climate, was a significant and challenging part of this project."

The building's setting, too, is a careful balance between the easily seen and the unexpected; between tradition and innovation. "Campus guidelines dictated a natural, Okanagan landscape," says Fiona Chamberlain, principal of Outland Design Landscape Architecture. "We developed an annual interest woody plants and meadow garden concept with landscape architect Dean Gregory, but also thought it would be exciting to incorporate plants that were used by First Nations people for medicinal purposes. This means you can see a beautiful landscape but behind that landscape is another level of meaning."

Inside, there is little question this is a pure 21st century facility that's propelling distance learning into the future: wet and dry lab facilities, gross anatomy lab, offices and two lecture theatres that could easily be mistaken for television news rooms. A complex, interactive audiovisual system connects the two theatres to the Victoria and Prince George satellite facilities, as well as the Vancouver campus. Between each pair of students' seats, a push-to-talk microphone not only activates audio but causes a camera to zoom in on the speaker. This creates a single, virtual classroom that makes it possible for students and faculty in all four locations to interact as if they are physically face-to-face.

Lighting, electrical, acoustics and even colour choices are all meticulously chosen for compatibility with the demands of live broadcasting. "For example, wood finishing's are beautiful but cause people to appear completely washed out from the way it reflects light," Maile says.

Like all scientific research-based facilities, flexibility in the lab areas required innovative thinking. The solution, elegant in its simplicity, was to replace the typical lab benches with a ceiling service conduit above where the benches would normally be located. Users now adjust the space to their needs – acid-resistant desks for a wet lab application, installation of a large piece of specialized equipment, cooling for high-heat computer applications – and then simply clop into the required power or data services.

To help prepare for the inevitable changing requirements of scientific advancement, gas and water services have larger piping than current loads require and a low-temperature

heating water supply was used. The building is connected to a campus-wide geothermal heating/cooling system and has local control for lab exhaust valves. "These kinds of trade-offs are always, by definition, a balance between flexibility and budget," says Adam Juck, associate at MCW Consultants Ltd.

Ever aware of the environment, the Health Sciences Centre is anticipated to achieve LEED Gold, but McColl notes there are "the Big Four" that are always present in a building designed by Stantec. "Naturally, there's water conservation and energy reduction," he says, adding this building has eight energy efficiency points, a number that's almost impossible to improve upon for a wet/dry lab. "But we also look at durability because tearing down a 50-year-old structure is hardly demonstrating sustainable building practices." And finally, there's extensive, conscious use of locally sourced materials to reduce transportation costs and stimulate local economies.

"I believe this building represents the future of education," says McColl. "It's all about enticing students to want to learn. Imagine having spaces for every learning style – whether it's on your own, in a formal group, in a casual group or in a classroom. Traditional teaching spaces must change and this is the beginning. There's an energy and motivation that flows from the scientists and faculty to the students and back. And when students are motivated to learn, they will learn better – it's just that simple."