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Ryerson Laboratory at MaRS

by SUSAN PEDERSON

Imagine peering down into a microscope all day, passionately pursuing research on things that can't be seen with the naked eye. Then some hours later, you look up, and as a lovely counterpoint, instead of microbes and cells swimming before your eyes, you glance out a wall of windows and drink in a spectacular view.

This is the juxtaposition that the design team envisioned when they began work on the new Ryerson Laboratory at the MaRS site in Toronto; a facility designed to bring together educators, researchers, social scientists, entrepreneurs and business experts under one roof.

The Ryerson lab is a purpose-built research facility for the Faculty of Science's Department of Chemistry and Biology, and features high-tech, collaborative laboratory space, designed for Ryerson faculty and graduate student researchers working in a broad range of disciplines, from microbiology to aquatic sciences to biochemistry and more.

Imogen Coe, dean, the Faculty of Science, says, "Much of the research that will go on in this space involves the study of things that are virtually invisible to the naked eye, like bacteria and DNA. After a couple of hours staring down a microscope, to be able to go to the window and look out across the skyline of Toronto will be inspiring."

In addition, common, shared, well-equipped core facilities are features that are built into the space, allowing more efficient utilization of equipment and techniques by all members of the facility. It will provide much-needed additional space for the growth and the capacity building of the Faculty of Science.

It sets the well-respected university's science program clearly ahead, according to Jay Levine, principal with NXL Architects Inc. "The faculty felt that Ryerson was not top of mind

for graduate students considering a career in science. They challenged us to design a highly organized new facility to support their work, while creating a community for science in the heart of the city," says Levine.

Beyond giving aspiring and practicing scientists a leading-edge space to do their work, Levine explains there are design features built in to encourage a sense of community, such as a circulation scheme that intentionally creates collisions at interaction nodes; open lounges for sharing science work, and even locating the food services in the middle of the space to bring people together.

"It is part of what connects people. Things like the open lounge are designed for kids being kids as they transition into being scientists. The work we do, and facilities like this are attracting smart people to science," says Levine.

The Ryerson facility boasts multiple research workstations, shared office space for principal researchers, wet- and dry-laboratory spaces, controlled environment rooms, radioisotope and tissue culture facilities and other technologies, instruments and equipment designed to support leading-edge scientific enquiry.

Experienced hands guided the complexities of moving and creating these labs. John Fry, project manager with WSP Group notes, "We had an experienced project team led by Stephanie Soussamian, Ryerson's in-house manager, plus a decisive and informed user group, so you'd get decisions in a very timely way, which kept the momentum going. Stephanie fostered an environment of trust and respect, and the goals and processes were very clear, so the team knew what the expectations were. The team that was assembled is familiar with labs, so we were gaining benefits of lessons learned."

Still, it takes a great deal of trust to place years of research into the hands of outsiders. As lab equipment was moved into the new space, systems had to be in place to prevent any contamination of bacteria, for example, involved in research projects. Pre-installation meetings with all team members ensured optimum conditions for success.

Biagio Pasciuta with Eastern Construction Company explains: "The complexities and limitations of this building required a lot of co-ordination with the trades and consultants, and really just working with the constraints of the design intent with subcontractors. That involved the mechanical systems and because it's a lab, all installations had to be within very minimal tolerances. With various gases, research equipment, HVAC and electrical requirements not common on typical commercial projects, co-ordination and daily interaction was critical. Due to the lab research requirements, we had to be mindful of pressure differentials, this included quality control measures to ensure certain areas were properly sealed from others.

His team also had to deal with a floor that was one quarter to two-and-a-half inches off level, which took almost a week to remedy.

"After the technical conditions were met, our biggest concern is working with these different labs to make everything architecturally pleasing," he adds. "The workmanship had to be pleasing. It is a really dynamic space and everyone who goes in there says it's very colourful and outside the normal realm of other labs. We have had nothing but good remarks about it."

According to Monica Contreras, director of design and construction at Ryerson, the facility "allows Ryerson to establish a footprint on MaRS, and to the other universities working at MaRS.

Our researchers now have the ability to work with them. It's like an incubator."

Indeed it was a complicated incubator to transition into the space. But thanks to a well thought out plan, a 24/7 work schedule and an experienced team, the project was completed three months early.

"We have an excellent construction manager who was fantastic to work with and who was very diligent," says Contreras. "It had to do with understanding what the limitations needed to be and maximize work efficiency."

They even secured all their permits in time. The only thing that held up the schedule was the work crew had to stop work occasionally because there were parties held in the space.

"These celebrations were done at key milestones to bring the team together. The entire team also had tours while under construction, where all faculty could see the complexity that goes into a lab project so they can know it, and walk into it and see how everyone is working to make it happen," explains Fry. "Having an opportunity for the full team to celebrate the project successes at key project milestones allowed the team to build relationships in a less formal environment." ■

LOCATION
661 University Ave, Toronto, Ontario

OWNER/DEVELOPER
Ryerson University

PROJECT MANAGER
WSP Group

ARCHITECT
NXL Architects Inc.

CONSTRUCTION MANAGER
Eastern Construction Company

**MECHANICAL/ELECTRICAL/
COMMUNICATION CONSULTANT**
Smith + Andersen

TOTAL SIZE
18,172 square feet

TOTAL COST
\$12.5 million