Leader Profile

The Up and Comer: Frederic Brunet, RJC Engineers

BY :: DON NORMAN

Unlike Matt Humphries, who is a well-established engineer working as a principal at a major firm with several recognizable projects under his belt, the subject of this leadership profile is an example of someone earlier in the leadership curve. But while his career isn't as fully realized, Frederic Brunet is establishing himself as future leader.

Brunet earned his Engineering Technologist diploma in 2012, but he soon realized he'd need to upgrade his credentials in order to achieve his personal goals as an engineer. He earned his Bachelor of Engineering in 2016 before enrolling in the Master of Engineering program at Polytechnique Montréal. Brunet says without a master's degree, the really desirable projects would be out of reach. He says that when he was younger, he envisioned himself working on highly-recognizable, city-defining designs. "I always wanted to do iconic buildings that would shape the skyline of a city," he says. "Doing a master's was the minimum."

In 2017, Brunet was awarded CISC's prestigious G.J. Jackson Fellowship. The $20,000 scholarship is awarded annually to an engineering student registered in full-time graduate studies with major emphasis on the study of steel structures. The namesake of the scholarship, the late Geoffrey Jackson, was a founding member of the Steel Structures Education Foundation (SSEF) and another shining example of leadership in the Canadian structural steel fabrication industry.

Without the CISC scholarship, Brunet says his experience would have been significantly different. "The scholarship allowed me to devote all my time to my master's studies. I was able to focus on my studies, my research project and various professional involvements I had at the time. I didn't have to think about money." He says without the funding, he may have still pursued his master's degree, but he would have had to do so part-time.

Brunet's research focused on the seismic design of heavy industrial steel structures. After completing his research project, he was hired as a structural designer at Montreal-based engineering firm SDK. His first project

as a junior structural engineer was to design the gravity systems for the Molson Coors' New Brewery in Longueuil. "One of the reasons I was hired was because of the expertise that I developed throughout my master's degree," he says. While the brewery isn't considered "heavy industrial" (his research focus), he was able to apply the knowledge he acquired during his research to the work he did for SDK.

But for Brunet, who started working at RJC in the fall of 2020, his master's degree did more than just land him a job. "It gives me more confidence, for sure." With only three year's experience under his belt, he knows he still has some dues to pay before he gets the plum jobs he's always dreamed of, but the confidence he's earned inspires optimism in the young engineer. "I haven't done iconic buildings yet, but RJC are doing very nice buildings all around the country. So, I'm pretty sure I'll get there."

Through his studies and his work over the past several years, Brunet has developed a keen appreciation for steel. "Steel is a perfect material," he says. "It doesn't excuse you. It's more precise than other materials." And for an admitted lover of physics and mathematics, the appeal of precision makes perfect sense.

But while the precise and unyielding nature of steel is attractive to a left-brained empiricist like Brunet, it may be surprising to hear him sing the praises of the metal's flexibility – especially in terms of sustainability. "The greenest buildings are the ones already built, the ones we can retrofit and build on top of," he explains. "Steel allows this flexibility." He contrasts that with concrete: "If you have a [concrete] building in a prime spot in the city centre, it might be cheaper to just demolish it and rebuild something, which is not very sustainable." And with steel being 99-per-

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cent recyclable, the advantages keep adding up. "When you think of 'sustainable' in my mind steel is a greener material than concrete," he says.

From Brunet's perspective, CISC has an important role to play in the steel industry in Canada. In addition to being a body that promotes the use of steel, and makes certain codes are well understood across the industry, it offers valuable learning opportunities. "I will attend many courses at CISC," he says, noting that courses are often taught by professionals with very specific experience that a young engineer would not have otherwise had the opportunity to encounter. "For a young professional like me, it's very valuable to just see case studies and how they design things. It [offers] background on how to design complex things that are outside the standard."

Brunet's passion for the career path he chose is palpable. He describes a game he played with friends where everyone gets to choose their ideal job in a world where everyone is paid the same wage. "90 per cent of our friends chose something they are not doing right now," he says. But for Brunet, the answer is always "structural engineer."

Brunet's passion stems from the elegant simplicity inherent in the engineering process. "You start with a calculation – with pen on paper," he explains. Those calculations lead to drawings, and then the drawings come to life in the finished product. "It just started with a calculation, and afterwards you have a building that will stand for 100 years or more and possibly shape horizon of the city. I'm very passionate about the fact that I can go on site and see the results of the things I calculated." AS