

University of Manitoba Steel Bridge (UMSB) Society

Sponsorship Package 2018/19



CSCE/CISC Canadian National Steel Bridge
Competition (CNSBC)



Oct 1st, 2018

RE: 2018/2019 Request for Financial Support

MESSAGE FROM THE TEAM CAPTAIN

To whom it may concern,

For the past five years the University of Manitoba Steel Bridge (UMSB) team has participated in competitions sponsored by the American Society of Civil Engineers (ASCE) Midwest Region. However, starting this year the UMSB team will start competing, for the first time, in the Canadian National Steel Bridge Competition (CNSBC) sponsored by the Canadian Society for Civil Engineers (CSCE) and the Canadian Institute of Steel Construction (CISC). The CNSBC provides an excellent opportunity for us students to apply their theoretical knowledge to a hands-on project. The skills developed through participation in engineering competitions such as this are readily transferable to both our academic and future professional careers. Several of our current team members have taken part in last year's competition and can attest to the value of having the opportunity to take part in the Steel Bridge Competitions. We are extremely grateful for the support that has made those opportunities possible and we look forward to applying the lessons we learned last year to represent the University of Manitoba in Montreal for the Canadian National Steel Bridge Competition.

As a relatively new group to the University of Manitoba we have strived to increase awareness of our activities and expand our reach to more students on campus. Because of this we are committing to provide technical presentations to our student members to provide more learning experience from industry. The following package contains a statement from the UMSB faculty advisor, Dr. Young-Jin. In addition, this package contains personal statements from the team leads, highlighting their personal and professional backgrounds as well as why they chose to get involved with the team. More details regarding the competition and the request for funding are also presented.

I am pleased to submit, on behalf of the University of Manitoba Steel Bridge (UMSB) Society, one (1) electronic PDF application for consideration for financial support from your company or organization. The team's anticipated expenses for 2018/2019 total twenty thousand dollars, (\$20,000) to travel to Polytechnique Montreal and participate in the annual CISC/ICCA Canadian National Steel Bridge Competition (CNSBC). Any amount that could be donated to the team would be greatly appreciated. Should you have any questions or concerns, please feel free to contact me.

Sincerely,

Daly Penner

Team Captain

Ph: (204) 918-3757

Email: umsteelbridge@outlook.com

2018 / 2019 Request for Financial Support

It is with great pride that I introduce to you our team of Civil Engineering students from the University of Manitoba, who will participate in the Canadian Society of Civil Engineers (CSCE)' Student Steel Bridge Competition for the first year followed by fifth consecutive year of participating American Society of Civil Engineer (ASCE)'s international Student Steel Bridge Competition. As the team's advisor for this year, I am excited to be working with the students on their design. I believe that this experience will provide a greater understanding of engineering design and inspire the students to seek every opportunity to practice their technical knowledge. The outlines of the Steel Bridge Competition are described as:

The Canadian National Steel Bridge Competition (CNSBC) is an annual competition that was created in partnership between Canadian Institute of Steel Construction (CISC) and the Canadian Society for Civil Engineering (CSCE) in response to a need within the industry to give students a domestic alternative to the American Institute of Steel Construction (AISC)/ASCE National Student Steel Bridge Competition. The CNSBC challenges students to participate in a comprehensive project that involves conception and design, fabrication, erection, and testing of a steel bridge structure that meets client specifications and optimizes performance and economy. The competition increases students' awareness of real-world engineering issues. The competition is modelled after the AISC/ASCE National Student Steel Bridge Competition, with modifications so that students may use the bridge design in both competitions.

<https://www.cisc-icca.ca/canadian-national-steel-bridge-competition/>

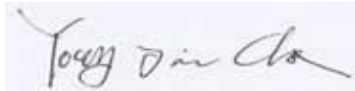
The Department of Civil Engineering places a strong value on teamwork and this project provides an excellent opportunity for students to work together. Through this competition the students will see the direct correlation between design and construction as they have to design, fabricate, and assemble their bridge under strict guidelines. The challenge of the Steel Bridge Competition will help the students gain appreciation for their university education and see its connection to professional practice, taking them beyond the technical aspect of engineering design.

This competition brings together a number of Canadian universities. Our students will have the opportunity to meet students from other universities, network with professionals from other regions, and become further involved in nation-wide events. These types of endeavors benefit the faculty and the local steel industry as well as the students. Through mentorship and sponsorship, practicing members of the profession have the opportunity to meet and form connections with young engineers, in turn facilitating the development of student-focused programs. Your financial support of this student-driven activity will be greatly appreciated.

Thank you for your support,



Dr. Dimos Polyzois, P.Eng.
Professor



Dr. Young-Jin Cha, P.Eng.
Assistant Professor



Team Leads

Daly Penner (Team Captain)

Daly Penner is in her fourth year of civil engineering. She has been a part of the UMSB team for the past two years working as the Construction lead and Co-Drafting lead. Daly enjoys working with AutoCAD on personal projects, during university and as a TA for the Civil Graphics course. As the captain for the team this year Daly will lead the team to participate in CNSBC for the first time, she also wants to focus on improving the team's long term goals by creating transition documents and standardize processes.

Daly is part of the Civil Co-op program and spent her past two summers working at Bockstael Construction. In her spare time, she enjoys sailing on lake Winnipeg traveling with her family.



Cole Friesen (Design Team Lead)

Cole Friesen is in his fifth year of Civil Engineering at the University of Manitoba with a focus on structural design. This is his fourth year on the U of M Steel Bridge Design Team where he has previously held the roles of Aesthetics Lead, Construction Lead and Team Captain. He plans to bring knowledge gained from past competitions along with experience in structural design and finite element analysis to the Design/Analysis Lead role.

Cole spent the past summer working for Hatch in their structural department. He assisted in the design and review of structural elements using 3D modeling software as well as technical drawings. He has also assisted on site as a construction inspector for Hatch, as well as Manitoba Hydro in a previous work term. Aside from engineering, he has also spent several of his past summers volunteering at Pioneer Camp Manitoba leading the maintenance team and guiding wilderness canoe trips.

During his free time, Cole enjoys canoeing, playing piano, and participating in intramurals.



Ralu Eze (Treasurer)

Ralu Eze is currently a 5th year Civil Engineering Student at the University of Manitoba. Since childhood he has had a passion for designing structures such as buildings and bridges, inspiring him to join the University of Manitoba Steel Bridge Team. This year he is the team's treasurer, responsible for keeping track of the funds and giving financial advice to the team when needed.

This will be Ralu's third year on the team. In the past he has helped draft bridge plans for the team, been a lead on the aesthetics team, and been a spare for the assembly team. His work experience includes a 4-month work term at Preset Piling Ltd. as a Senior Engineering Student as well as an 8-month work term at Inland Pipe as an Engineer & Sales Assistant. He is expected to graduate in Winter 2019. Outside of school, Ralu is involved in his Nigerian Community as well as Folklorama. His hobbies include fitness, travel, and producing music.



Uzair Wasif (Social/PR Team Lead)

Uzair Wasif is currently in his fifth year of Civil Engineering at the University of Manitoba. This is his fourth year on the U of M Steel Bridge Team and he plans to work with his teammates to have another successful competition. As the Social/PR Lead for the team, Uzair will use his great experiences at the past competitions and conferences to improve team bonding by planning team socials throughout the 2018-2019 year. He also plans to promote the team and raise money for the competition by holding fundraisers with his team as well as maintaining the UMSB team website and social media page.

Uzair has an interest in structural and water resources engineering as well as recently developing an interest in project management through his latest co-op work experience. He is a student member of Engineers Geoscientists Manitoba (EGM), Canadian Society of Civil Engineers (CSCE), as well as the American Society of Civil Engineers (ASCE). In his spare time, Uzair enjoys travelling, working out, playing basketball and eating at local restaurants with his friends and family.



Jonathan Vandenberg (Aesthetics Team Lead)

Jonathan Vandenberg is in his fourth year of civil engineering. Jon joined the student steel bridge team two years ago to further his undergraduate experience. His first year as a member saw Jonathan work as part of the drafting team, as well as the construction team. While again being involved with the drafting team for his second year. Those experiences led to his current involvement as the aesthetics team lead.



Jonathan recently just finished his tenth year working for Silverstone Landscaping. For the past eight years he has worked as a foreman, overseeing the majority of excavations, base compactions, paving stone and retaining wall construction.

In his spare time, he enjoys camping, canoeing and various sporting activities.

Richard Watson (Construction Team Lead)

Richard is in his fifth of Civil Engineering at the University of Manitoba. He will be graduating next spring with a B Sc. CE and a minor in management. This is his second year as a member of UMSB. Richard was previously a member of the drafting and construction team.

Richard has spent 4 summers working for PCL Construction where he has agreed to return after graduation. These work terms have been spent to gaining an understanding of efficient construction process and good team management.



In his free time Richard enjoys playing sports, snowmobiling, and fitness.

Nastassja Thorsten (Co-Drafting Lead)

Nastassja is in her fourth year of civil engineering at the University of Manitoba. Although it is her first year on the Steel Bridge Design Team, she's been a member of various student groups for the past three years, such as the Canadian Society of Civil Engineers and the Great Northern Concrete Toboggan race. In addition to her involvement in student groups, Nastassja has worked as a teaching assistant for the Civil Engineering AutoCAD course over the past two years.



This past summer, she worked for the Ernst Hansch group of companies, where she had the chance to apply her knowledge of AutoCAD to real-life projects. Nastassja is looking forward to applying her drafting skills to more complex design problems, as well as introducing her team to real-life applications of AutoCAD.

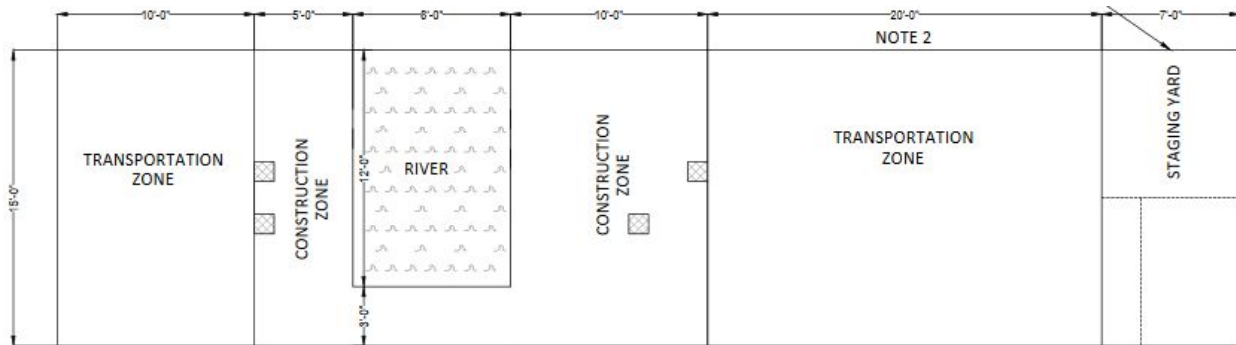
Richard Douchet (Co-Drafting Lead)

Richard is in his third year of Civil Engineering at the University of Manitoba. His interest in Civil Engineering lies in the Railway. Richard has spent the last winter and summer working for Canadian Pacific Railway where he inspected Track quality across their entire network. During his work term, He worked on his AutoCAD skills by creating railway and train car drawings on his spare time. Upon graduation, He would like to work on design projects related to the railway. Richard was also President of the University of Manitoba AREMA Student Chapter for the 2017-2018 school year.

During his free time, Richard likes to play squash and Tennis. He also likes to cycling, hiking and camping.



UMSB bridge assembly at the 2018 Midwest Steel Bridge Competition in Iowa.



2019 Competition Problem Statement:

Steel bridges play a very important role in our life when it time to go from one bank to another. In Canada, we know several places where these structures become part of our life and an major economics elements. On large city, nerve centers become the roads network and theirs bridges however these commodity can be sometime motorists' nightmare. In their effort to maintain and rebuild infrastructure, today's Engineers are called to be innovative and create sustainable and economical structures that meet the many challenging design requirements. For this competition, participants will have to develop and work on a new steel bridge that will allow the St. Lawrence River to be relocated to relieve Montreal's heavy traffic. Like the New Champlain Bridge, competitors will have to take into consideration the canadian's harsh winters, especially those over this major commercial river. A feasibility study is being conducted that includes a competition to identify the best design for a limited access, short span bridge to cross a river near ecosystems of protected species. The bridge must have the ability to support bicycles, pedestrians, park vehicles and emergency vehicles while prohibiting private motor vehicles. Models will be erected under simulated field conditions and will be tested for stability, strength, and serviceability using standardized lateral and vertical loads. Structural cost, construction cost and duration, and aesthetics are important considerations. Virtual costs are assigned to critical features, including a sliding scale for material that promotes robustness without wastefulness. Engineers associated with the park will judge the competition and will award the design/build contract to the company whose model satisfies specified requirements and best achieves project objectives. Steel is specified for ease of prefabrication, rapid erection, superior strength to weight ratio, durability, and high level of recycled content. Designs with permanent or temporary piers in the river will not be considered. Ecosystems of protecting species have been found on the periphery of bridge pier also preclude temporary piers elsewhere, as well as restricting the location of footings and the size of construction zones. Remote staging of material and equipment is required and the size and quantity of members to be transported is limited. Models will not include deck, foundations, and approaches.

https://www.cisc-icca.ca/wp-content/uploads/2018/09/2019-Rules_CNSBC-CNCPA.pdf



Team Members (Alphabetical)

Aaron Fleming, Arnish Patel, Cole Friesen, Crystal Panay, Daly Penner, Dylan Williamson, Emerald Fonseca, Hazel Gloria, Isaac Orah, Jenna Kubanek, Jesse Adamson, Jinrong Liang, Joanna Yumol, Jonathan Vandenberg, Katrina Carter, Linda Duch, Luping Che, Matthew Allen, Megan Shantz, Michele Rochette, Nastassja Thorsten, Quinn Desrochers, Ralu Eze, Ravinder Khakh, Richard Doucet, Richard Watson, Saleem Baraty, Samantha Wilson, Toan Dang, Uzair Wasif, Yashish Sharma, Yu Yan Li

Alumni Advisors

Tim Neirinck, Dan Szara, Zakaria Louwahi

Faculty Advisors

Dr. Young-Jin Cha
Dr. Dimos Polyzois

Team Website: <http://steelbridge.umes.mb.ca/>

The UMSB Society is requesting funding for the following activities:

- **Competition Expenses** – We will be attending the Canadian National Steel Bridge Competition in Montreal at the Polytechnique Montreal.
 - Expense: \$900/student (20 students, plus 1 advisors) to attend the conference. This expense covers registration fees, travel and vehicle rental fees, and accommodation costs.
- **Bridge Expenses** – Cost of fabrication plus extra materials including paint for the finishing of the bridge and tools needed to build the bridge
 - Expenses: \$1500
- **Team T-shirts** – A requirement of the competition is to have a distinct team uniform. We will order t-shirts that include recognition for all team sponsors and supporters.
 - Expense: \$500
- **Team Posters** – A requirement of the design judging portion of the competition is a technical poster displaying shear force and bending moment diagrams as well as information regarding the decisions behind the bridge design.
 - Expense: \$100 (2 x \$50)

Total anticipated expenses are \$20,000.

Sponsorship Levels:

Gold (\$2000 and above) Large Logo on poster and team t-shirts, Company Logo and profile on UMSB website.

Silver (\$1000 - \$1999) Medium Logo on poster and team t-shirts, Company Logo on UMSB website.

Bronze (\$500 - \$999) Small Logo on poster and team t-shirts



OFFICIAL UMSB SPONSORSHIP FORM FOR 2018/19

COMPANY NAME: _____

ADDRESS: _____

CONTACT: _____

PHONE: _____

E-MAIL: _____

We wish to endorse the University of Manitoba Steel Bridge (UMSB) Society of 2018/19 with this sponsorship donation in the amount of \$ _____.

This sponsorship is to be used solely for the purpose of the CSCE/CISC Canadian National Steel Bridge Competition (CNSBC) and any funds that are not used may be left to assist future UMSB Society events.

On behalf of the University of Manitoba Steel Bridge (UMSB) Society, thank you for your generous contribution.

Our Company is interested in providing an educational presentation for the team

__ YES __ NO

Cheques should be made payable to the **UNIVERSITY OF MANITOBA STEEL BRIDGE SOCIETY**

CHEQUES SHOULD BE SENT TO:

U of M Steel Bridge Society C/O Beata Chartrand
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University of Manitoba
Winnipeg, MB, R3T 5V6
Canada