University of Manitoba Steel Bridge (UMSB) Society

Sponsorship Package 2019/20

CSCE/CISC Canadian National Steel Bridge Competition (CNSBC)

Oct 22, 2018

RE: 2019/2020 Request for Financial Support

MESSAGE FROM THE TEAM CAPTAIN

To whom it may concern,

The University of Manitoba Steel Bridge (UMSB) will be participating in the Canadian National Steel Bridge Competition this year. The CNSBC provides an excellent opportunity for us students to apply 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. It is also a great opportunity for our team to compete against many teams from across Canada and even from Mexico and China. 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 at Western University for the 2020 Canadian National Steel Bridge Competition.

The following package contains a statement from the UMSB faculty advisor, Dr. Young-Jin, 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. Over the years we have strived to increase awareness of our activities and expand our reach to more students on campus. This year we have seen a large increase in participation from students, because of this we would like to provide technical presentations from industry. If your company or organization would be interested in providing a presentation, please let us know.

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 2019/2020 total twenty-seven thousand six hundred dollars, ($27,600) to participate in the annual CISC/ICCA Canadian National Steel Bridge Competition (CNSBC) being held in London Ontario, May 2020. Any amount that could be donated to the team would be greatly appreciated. Should you have any questions to concerns, please feel free to contact me.

Sincerely,

Daly Penner
Team Captain
Ph: (204) 918-3757
Email: umsteelbridge@outlook.com

MESSAGE FROM THE FACULTY ADVISOR

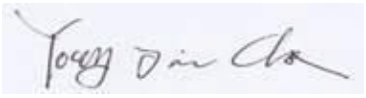
It is my pleasure that I introduce to you our team of Civil Engineering students from the University of Manitoba, who will participate the Student Steel Bridge Competition (SSBC) in the Canadian Society of Civil Engineers (CSCE) for the second year followed by fifth consecutive year of participating the international SSBC in American Society of Civil Engineer (ASCE).

> 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 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/

As the team's advisor, I have worked with the students on their design for three years. I have seen that the experiences through this competition have provided a broader and deeper understanding of engineering design and stimulated the students to seek every opportunity to practice their technical knowledge. Our Department of Civil Engineering also 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. Young-Jin Cha, P.Eng
Assistant Professor

Dr. Dimos Polyzois, FEC, P.Eng.
Professor Emeritus

Team Leads

Daly Penner (Team Captain)

Daly Penner is in her fifth and final year of civil engineering. She has been a part of the UMSB team for the past three years working as the Construction lead and Co-Drafting lead and most recently as Team Captain. 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 in London, ON. She also wants to focus on improving the participation of team members as the team keeps growing.

Daly is part of the Civil Co-op program and spent last summer at Lavergne Draward and Associates and the previous two at Bockstael Construction. In her spare time, she enjoys sailing on lake Winnipeg and traveling with her family.

Emerald Fonseca (Analysis Team Lead)

Emerald Fonseca is in her fifth and final year of civil engineering at the University of Manitoba where she has focused on structural engineering. She has held previous leadership positions as president and the finance executive within the student chapter of Engineers without Borders. She also had a part in co-founding the Women of Manitoba Engineering Network, a student group focused on equity within the field of engineering. This is her second year on the UMSB team; last year she aided in the design/analysis of the bridge and competed with the construction team in Montreal.

Currently, Emerald is working as a co-op student in the Bridge Group at Stantec Consulting Ltd as part of an 8-month work term where she has aided in the detail design of the steel and general construction of a provincial bridge. She hopes to apply the experience she gained from her work term towards being the Analysis Team Lead. Prior engineering work experience has included work terms at Manitoba Infrastructure within the pavement design and hydrologic operations departments.

Outside of engineering, Emerald is passionate about social change and continually finds avenues to channel learning and action towards creating a positive impact. She enjoys taking part in innovative community driven initiatives such as being a

volunteer bike mechanic at The Wrench and The Bike Dump. On her spare time, she loves going for bike rides and experiencing art.

Isaac Orah (Treasurer)

Isaac is a fifth-year student in the Civil Engineering Program at the University of Manitoba. He has previously served as a member of the drafting and PR/social sub-teams within UMSB. He is primarily interested in structural and municipal engineering.

Isaac is passionate about teaching, mentorship and promoting cultural diversity. He is a co-founder and director of "ZICLA International School" which is a daycare, kindergarten and primary school that is located in his home country of Nigeria. He is currently working for the third consecutive year as a teaching assistant in "Graphics for Civil Engineers" at the University of Manitoba, and he has mentored an international student through the International Center at the University of Manitoba.

Isaac is a member of the Co-op/IIP program at the University of Manitoba and a student member of Engineers Geoscientists Manitoba (EGM). He has gained over a years' worth of practical engineering experience by spending two terms as a Site Observer at Stantec Consulting Ltd, one term as a Field Engineering Student at PCL Constructors Canada and one term as an Engineering Student at Terracon Development Ltd.

In his spare time, Isaac enjoys playing soccer, watching TV, listening to music, weight lifting, and learning about financial management.

Jesse Adamson (Design Team Lead)

Jesse is currently in his fourth year of Civil Engineering at the University of Manitoba. This is his second year on the University of Manitoba Steel Bridge Team. As design lead, he plans to focus on involving many of the UMSB team members in the initial design. Jesse plans to use his previous experience from last years' competition and being a member of the drafting and construction teams to expand on this years' design for the bridge. He is a student member of Engineers Geoscientists Manitoba (EGM), the Canadian Society for Civil Engineers (CSCE), and aesthetics and technical exhibition co-leader for the newly introduced University of Manitoba Concrete Canoe (UMCC) team. In his spare time Jesse enjoys swimming, playing badminton and chess.

TEAM MEMBER PROFILES

Jeisela Evangelista (Co-Aesthetics Lead)

Jeisela is a fourth-year Civil Engineering student at the University of Manitoba with her primary interest in structural and geotechnical engineering. This is Jeisela's second year on the UMSB team where previously, she was involved with the analysis team. This year she is very excited to apply her creativity, love for design and leadership skills in her role as co-aesthetics lead.

In the past summer Jeisela worked for J5 Construction Ltd. as a project manager assistant and estimator in training, where she Jeisela is also a Youth Leader where she leads weekly lessons and Moderator for the River of Life Church of the Nazarene.

In her spare time, Jeisela enjoys exploring new places and capturing memories through photos and videos.

Ashley Victoria (Co-Aesthetics Lead)

Ashley is a fourth-year Civil Engineering student at the University of Manitoba with an interest in structural design and material testing. Although this is Ashley's first year on the UMSB team she has previous experience being on a robotics team in the past. She is excited to bring her past knowledge of design and leadership to this year's team.

In the past Ashley has worked with her family on projects in the Philippines, helping with designs and on-site construction work. She is working to help improve each project's efficiency through the advancement of technology.

During her free time, Ashley enjoys going on adventures and reading.

Quinne Desrochers (Construction Team Lead)

Quinn is a 4th year civil engineering student and University of Manitoba. This will be his 3rd year on the steel bridge team and is the construction lead this year. This summer he worked as an engineering assistant at Duck Unlimited Canada. Outside university Quinn enjoys playing sports and is a member of the Bison's track and field team.

TEAM MEMBER PROFILES

Nastassja Thorsten (Co-Drafting Lead)

Nastassja is in her final year of Civil Engineering at the University of Manitoba, and will be Drafting Co-Lead for her second consecutive year. She has held leadership roles in multiple student groups, such as the Great Northern Concrete Toboggan race, the Canadian Society of Civil Engineers, and the Canadian National Concrete Canoe Competition. Nastassja is qualified by her three years of Manitoba course titled "Graphics for Civil Engineers," in which she teaches AutoCAD to second year engineering students. This past summer, she worked as a project manager for the Government of Nunavut, where she had the chance to apply her knowledge of AutoCAD to real-life projects in a challenging arctic environment. 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 Fourth year of Civil Engineering at the University of Manitoba. His interest in Civil Engineering lies in the Railway and water treatment. Last summer, Richard was fortunate to work on a municipal project as a Construction Inspector for JR Cousins Consulting. Upon Graduation, Richard is willing to go where ever the work is! 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, tennis, cycling, hiking, and camping.

Saleem Baraty (PR/Social Team Lead)

Saleem Baraty is a fourth year Civil Engineering student at the University of Manitoba. Currently, Saleem is working an eight-month co-op work term at TREK Geotechnical, ending in December. This is his second year on the U of M Steel Bridge Design Team where he previously played a role on the construction and drafting team.

Some of his personal interests include playing soccer, traveling, and investing.

Cole Friesen (SPEB Representative)

Cole Friesen is in his final year of Civil Engineering at the University of Manitoba with a focus on structural design. This is his fifth year on the U of M Steel Bridge Design Team where he has previously held the roles of Aesthetics Lead, Construction Lead, Design/Analysis Lead and Team Captain. He plans to use his experience and knowledge of the competition to assist the other team leads.

Cole has spent the past two summers working for Hatch in their structural department, where he has assisted in the design in steel elements, structural analysis and preparing technical drawings, among other tasks. He has also assisted on site as a construction inspector for Hatch, as well as Manitoba Hydro during a previous work term. Apart from engineering work terms, he has also spent several of his past summers working 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.

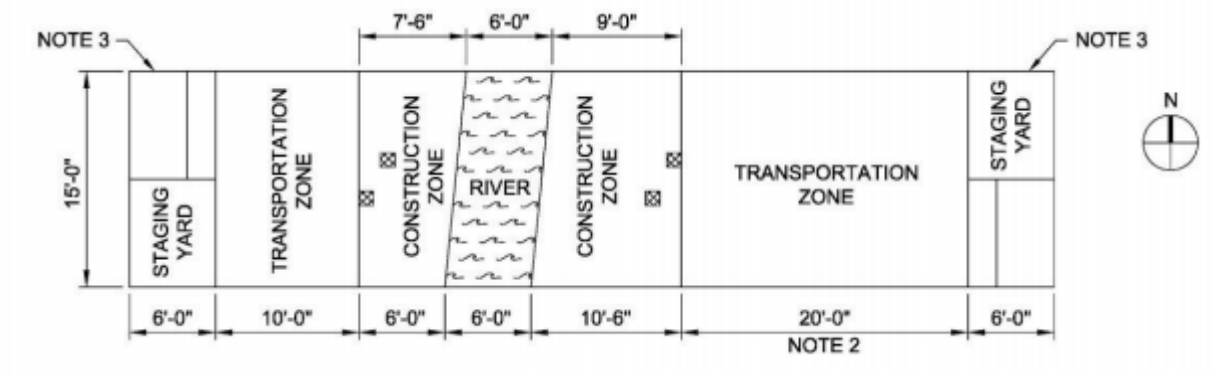
Alumni Advisors

Tim Neirinck, Dan Szara

Faculty Advisors

Dr. Young-Jin Cha,
Dr. Dimos Polyzois

COMPETITION BACKGROUND



2020 Competition Problem Statement:

Springbank Park in London, Ontario, Canada is located along the Thames River. As the largest park in London, with over 140 hectares of space and 30 km of trails, ease of access to the park is paramount for London residents. A new steel bridge has been proposed to connect the Springbank Pumphouse on the south side of the river to Hyde versatility, ease of prefabrication, ability for rapid erection, superior strength to weight ratio, durability, and high-level of recycled content. Due to the configuration of the pumphouse and the road, the bridge must be skewed. A feasibility study is being conducted that includes a competition to identify the best design for the bridge. Your company is invited to compete by submitting a 1:10 scale model to demonstrate its concept. The bridge must have the ability to support pedestrians, bicyclists, park vehicles, and emergency vehicles. Private motor vehicles are prohibited. Scale 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 (the client) will judge the competition and will award the design/build contract to the company whose model satisfies specified requirements and best achieves the project objectives. Designs with permanent or temporary piers in the river will not be considered. Soil conditions near the banks of the river 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. Design companies are encouraged to create diverse teams and treat everyone with respect. A team that creates a respectful, welcoming, and inclusive environment, and is not predisposed to defined roles and biases, will benefit greatly from the creativity that diversity affords.

https://drive.google.com/file/d/1rR4bQNeCXEYp3dS1xqGyhKTKuEujr92f/view

BREAKDOWN OF ANTICIPATED EXPENSES

The UMSB Society is requesting funding for the following activities:

- **Competition Expenses** – We will be attending the Canadian National Steel Bridge Competition at Western University in London, Ontario.
  - Expense: $1000/student (22 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: $1700
- **Apparel Expenses** – 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: $1400
- **Miscellaneous Expenses**– Throughout the year, the Steel Bridge Design Team endures expenses for miscellaneous actions such as technical presentations from companies, creating technical posters and other documents, and also organizing events for student outreach.
  - Expense: $1500

Total anticipated expenses are $27,600.

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.

SPONSORSHIP REGISTRATION FORM

OFFICIAL UMSB SPONSORSHIP FORM FOR 2019/20

COMPANY NAME: _____

ADDRESS: _____

CONTACT: _____

PHONE: _____

E-MAIL: _____

We wish to endorse the University of Manitoba Steel Bridge (UMSB) Society of 2019/20 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 Team C/O Beata Chartrand
Room E1-368A Engineering, 15 Gillson Street
University of Manitoba
Winnipeg, MB, R3T 5V6
Canada