



September 2020

Pile of Bones

Published by the Regina Chapter of ASHRAE

President's Message

By Cailin MacPherson

Welcome back, Regina ASHRAE Chapter! I hope everyone had a warm and relaxing summer.

As you might expect, the 2020/2021 ASHRAE year will look a little different. Both the September and November chapter meetings will be held virtually, while the October meeting will be held in person to bring on the new BOG and pass the 2020/2021 budget.

COVID-19 is bringing a whole new set of challenges but we are learning to adapt. The Regina ASHRAE Chapter will be collaborating on meetings with several other ASHRAE Chapters for 2020. This means that meeting dates may fluctuate and not always occur on our regular Wednesdays. We have found success in the past couple years hosting lunch meetings so we will be holding several virtual lunch meetings.

The spring ASHRAE Region XI CRC was held virtually and was a success. All required ASHRAE business was accomplished at the virtual meetings with many new faces in attendance. ASHRAE Society is closely monitoring the

Monday, September 14, 2020

ASHRAE Regina Chapter Meeting
Topic: SARS-CoV-2 transmission pathways and application to prioritize beneficial changes to building HVAC Systems.

Meeting Location: **Online**

<https://global.gotomeeting.com/join/589103965>

Access Code: 589-103-965

12-12:45pm – Presentation

12:45-1pm – Chapter Meeting

Upcoming Events

October 2020 – ASHRAE Chapter Meeting Location TBD

COVID-19 situation in relation to the ASHRAE Winter Conference which is scheduled to be held in Chicago on January 23rd to 27th.

More information about the conference from the new ASHRAE Society President, Charles E. Gullledge III, can be found here:

https://www.magnetmail.net/Actions/email_web_version.cfm?publish=newsletter&user_id=ASHRAE&message_id=19133395

This year will look a little different than past years, but we are a young BOG and excited to tackle these new challenges. If you have any questions, comments or concerns about how this ASHRAE year is looking, please do not hesitate to contact myself.

All the best,

Cailin MacPherson

Regina ASHRAE Chapter President

Vice President's Message

By Carla Drager

It's that time of year again folks...ASHRAE! I am looking forward to a new year and hopefully getting a chance to see everyone's beautiful faces again in person. We are going to kick off this year with a presentation by Traci Hanegan, mechanical engineer and partner at Coffman Engineering Inc. in Spokane, Washington. Traci serves on the ASHRAE Epidemic Task Force and will speak about ASHRAE's approach for modifying our built environment to mitigate risk and exposure to viruses. Now, more than ever, as the world adapts and changes, we need to ensure we are incorporating the necessary risk mitigation components into our new designs and existing buildings and maintaining paramount the safety of the public. The presentation will cover the following:

"There are many questions surrounding the current COVID-19 pandemic. As more research is developed, we are learning more about how the virus is transmitted and the steps we can take to prevent the spread. Wearing masks and staying home are great options, but how can we modify the built environment to mitigate risk?

The ASHRAE Epidemic Task Force was formed to deploy technical resources to address these concerns and provide options to various facilities that can assist with safe operation. This presentation will cover our most recent understanding of SARS-CoV-2 transmission pathways and apply that knowledge to prioritize beneficial changes to building HVAC Systems."

– Traci
Hanegan

This will be a virtual chapter meeting and everyone should have received the calendar invitation with a link to join the meeting. This will be a great opportunity to ask those burning questions that we've all had over the last couple of months.

Hope everyone can join us.

Past President's Message

By Pierre-André Ranger

Hi everyone, I hope you are being safe in this challenging time. We had a lot of people donate to ASHRAE research in the last ASHRAE year, and we want to thank all of you for doing so. We will be providing donation certificates to your locations either by mail or drop off in the next few months. ASHRAE appreciates all donations to continue the important research in the HVAC field.

Young Engineers in ASHRAE (YEA)

By Tyler Gamble

As your new YEA chair I'm excited to navigate whatever this year may bring for our young engineers. Keep an eye out for YEA events either online or physically distanced in person events. We have a few ideas in the hopper, but are always open to suggestions so don't be afraid to reach out to me.

Cheers!

Treasurer's Message

By Brad Lulik

Hello everyone,

On behalf of the Board of Governors (BoG), thank you for your continued support of the Regina Chapter. As treasurer, my mandate includes maintaining accurate financial records and providing regular reports to the Regina Chapter membership. Find below a table summarizing the financial position of the Chapter following the 2019-2020 fiscal year. With the cancellation of numerous activities, including the Chapter Regional Conference (CRC) and April/May Chapter meetings, actual revenues and expenditures are less than originally budgeted.

Chapter Financial Update		
June 1, 2019 to May 31, 2020		
Revenue to date:	Budgeted	Actual Costs
Membership fees:	\$ 24,500.00	\$ 21,850.00
Guest meals:	\$ 500.00	\$ -
Seminar registrations:	\$ 3,500.00	\$ -
Other:	\$ 1,450.00	\$ 4,200.00

Total Revenue to date:	\$ 29,950.00	\$ 26,050.00
Total Expenses to date:	\$ 33,871.67	\$ 17,954.75
Surplus to date:	\$ (3,921.67)	\$ 8,095.25

The operating budget for the 2020-2021 fiscal year has been approved by the Board of Governors and will be presented to the membership at a future Chapter meeting. With fewer in-person events, we are anticipating minimal disbursements until at least Winter 2021. The Board of Governors has recommended that membership invoicing be delayed until January 2021. At that time, if there is a return to normal operations, the Board of Governors will consider approving a pro-rated membership fee for the year. Until then, we will be operating on the surplus from the 2019-2020 fiscal year.

As of September 12, 2020, the ASHRAE chequing account contains **\$19,215.61** and the business savings account contains **\$7,544.71**. It is best practice to have enough cash to cover six (6) months worth of expenses, which we are well inline with. In anticipation of hosting the Chapter Regional Conference in 2022, the Board of Governors has opted to not invest reserve funds. Following CRC, this will be considered as a modest way to increase revenues.

Please contact me (b.lulik@mac-eng.ca) with any questions, comments, or concerns.

ASHRAE Issues Statements on Relationship Between COVID-19 and HVAC in Buildings

ASHRAE has published two statements to define guidance on managing the spread of SARS-CoV-2, the virus that causes COVID-19 disease (Coronavirus) with respect to the operation and maintenance of heating, ventilating and air-conditioning systems in buildings.

"In light of the current global pandemic, it's critically important that ASHRAE responds with guidance on mitigating the transmission of the virus, as well as ventilation and filtration recommendations," said 2019-20 ASHRAE President Darryl K. Boyce, P.Eng. "ASHRAE has a significant role to play in ensuring safe and healthy building environments and these statements offer the expert strategies needed at this time."

ASHRAE developed the following statements in response to widening false statements surrounding HVAC systems. ASHRAE officially opposes the advice not to run residential or commercial HVAC systems and asserts that keeping air conditioners on during this time can help control the spread of the virus. The official statements are below.

ASHRAE's statement on airborne transmission of SARS-CoV-2/COVID-19

Transmission of SARS-CoV-2 through the air is sufficiently likely that airborne exposure to the virus should be controlled. Changes to building operations, including the operation of heating, ventilating, and air-conditioning systems, can reduce airborne exposures.

ASHRAE's statement on the operation of heating, ventilating, and air-conditioning systems to reduce SARS-CoV-2/COVID-19 transmission

Ventilation and filtration provided by heating, ventilating, and air-conditioning systems can reduce the airborne concentration of SARS-CoV-2 and thus the risk of transmission through the air. Unconditioned spaces can cause thermal stress to people that may be directly life threatening and that may also lower resistance to infection. In general, disabling of heating, ventilating, and air-conditioning systems is not a recommended measure to reduce the transmission of the virus.

HVAC filters, along with other strategies, help to reduce virus transmission while removing other air contaminants that may have health effects.

ASHRAE's Environmental Health Committee also developed an Emerging Issues Brief to support the two above statements:

There is great concern about the real possibility of transmission through the air of various pathogens, especially SARS-CoV-2, among staff and administration in healthcare facilities, office workers, retail workers and patrons, manufacturing workers, and residents in private and public facilities and the general public in outdoor settings and in public transportation.

ASHRAE has created the Epidemic Task Force, comprised of leading experts to address the relationship between the spread of disease and HVAC in buildings during of the current pandemic and future epidemics. The ASHRAE Environmental Health Committee's Position Document Committee also updated a Position Document on Infectious Aerosols.

"ASHRAE, working with its industry partners, is uniquely qualified to provide guidance on the design, operation, and maintenance of heating, ventilation, and air-conditioning systems to the COVID-19 pandemic as well as to prepare

for future epidemics," said ASHRAE Epidemic Task Force chair, ASHRAE Environmental Health Committee voting member and 2013-14 ASHRAE Presidential Member Bill Bahnfleth.

Please visit the newly updated ASHRAE's COVID-19 Resources webpage at ashrae.org/COVID19 for additional details. The page includes frequently asked questions and the latest information on the ETF's guidance for healthcare facilities, residential buildings and other issues related to the COVID-19 pandemic.

2020-2021 Meetings and Events

Monday September 14, 2020

Location: GoTo Meeting

Time – 12:00 – 12:45 presentation
12:45 – 1:00 chapter meeting

<https://global.gotomeeting.com/join/589103965>

Presenter – Traci Hanegan, PE
Mechanical engineer and
partner at Coffman Engineers Inc. in
Spokane, Washington

Access Code: 589-103-965

Topic:

There are many questions surrounding the current COVID-19 pandemic. As more research is developed, we are learning more about how the virus is transmitted and the steps we can take to prevent the spread. Wearing masks and staying home are great options, but how can we modify the built environment to mitigate risk?

The ASHRAE Epidemic Task Force was formed to deploy technical resources to address these concerns and provide options to various facilities that can assist with safe operation. This presentation will cover our most recent understanding of SARS-CoV-2 transmission pathways and apply that knowledge to prioritize beneficial changes to building HVAC Systems.

October 2020
Topic: TBD
Date & Time TBD

Other Chapter Meetings will be announced in future newsletter

2020-2021 ASHRAE Regina Chapter Board of Governors

President

Cailin MacPherson
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Past President & Research Promotion

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Vice President & Programs Chair

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Membership Promotion

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Secretary/ Student Branch Advisor

Chris Best
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Treasurer

Brad Lulik
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Visit us at:

<http://regina.ashraechapters.org/>

Special Events

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Cypress Sales Partnership
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Historian / Webpage

Government Affairs Committee Chair

Chris Klatt
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YEA (Young Engineers in ASHRAE) Chair

Tyler Gamble
Canature Water Group
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Diversity in ASHRAE Chair

Henry Reynoso
Refrigerative Supply
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Newsletter

Patrich Costa-Muresan
patrich.costa-muresan@gov.sk.ca

2020-2021 ASHRAE Society Executive

Executive Committee

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Greensboro, North Carolina

Vice President

Donald L Brandt
Phoenix, Arizona

President-Elect

Michael C.A. Schwedler
La Crosse, Wisconsin

Vice President

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Treasurer

Farooq Mehboob
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Adrienne Thomle
Reno, NV

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Lenexa, Kansas

Chandra Sekhar
Singapore

Ashish Rakheja
Noida Uttar Pradesh, India

2020-2021 ASHRAE Regional Executive

Director and Regional Chair

Rusell Lavitt

RP RVC

Les Pereira

Regional Members Council

Representative

Eileen Jensen

GAC RVC

Daryl Collerman

Chapter Technology Transfer RVC

Janice Peterson

Regional Historian

Doug LeCren

Student Activities RVC

Tracy McKeon

YEA RVC

Baki Cvijetinovic

Nominating Committee Member

Jeff Hurd

Membership Promotion RVC

Louise McKenzie

Nominating Committee Alternate

Greg Fluter

Regional Treasurer

Norm Grusnick



ANNUAL REPORT 2019-2020

ASHRAE University of Regina Student Branch

Email: ashraeuofr@gmail.com

Facebook: [facebook.com/ashraeuofr](https://www.facebook.com/ashraeuofr)



MESSAGE FROM THE PRESIDENT

I am very proud to be the ASHRAE University of Regina Student Branch President for 2019-2020. With the addition of an executive team, this year has been an absolute success. Countless hours of work from our team went into planning events that students would have an interest in and that would also benefit them in terms of professional development and further education. I am so proud of the team and how we continue to attract students who want to participate in our events. Additionally, we were able to produce an operating surplus to further strengthen our events next year. The future is bright for the ASHRAE University of Regina Student Branch and having a part in the growth and sustainability of the Branch has been a very rewarding experience for me. I would like to say a huge thank you to our sponsors and the students for making this year so successful!



Kaylee Hayko, President

MESSAGE FROM THE STUDENT BRANCH ADVISOR

Over the past three (3) years, I have had the privilege of working with the ASHRAE University of Regina Student Branch in my capacity as the Student Branch Advisor. The Student Branch continues to attract new members, hosts numerous well-attended events, successfully applied for an ASHRAE Undergraduate equipment grant, partnered with local organizations to solve complex community-based problems, and secured nearly \$15,000 in community sponsorships. It is through the commitment of the 2019-2020 executive that these accomplishments were made possible. As such, I would like to thank the many student leaders that have dedicated their time and talents. I would also like to thank our community partners. The successes of the Student Branch were made possible by your generous contributions and continued support. I eagerly await the 2020-2021 academic year, so that we can continue building strong partnerships between the University of Regina and ASHRAE.



Brad Lulik, Student Branch Advisor

MEMBERSHIP

The University of Regina Student Branch was established in 2017-2018. Now entering the third year of operations, the Student Branch continues to grow.

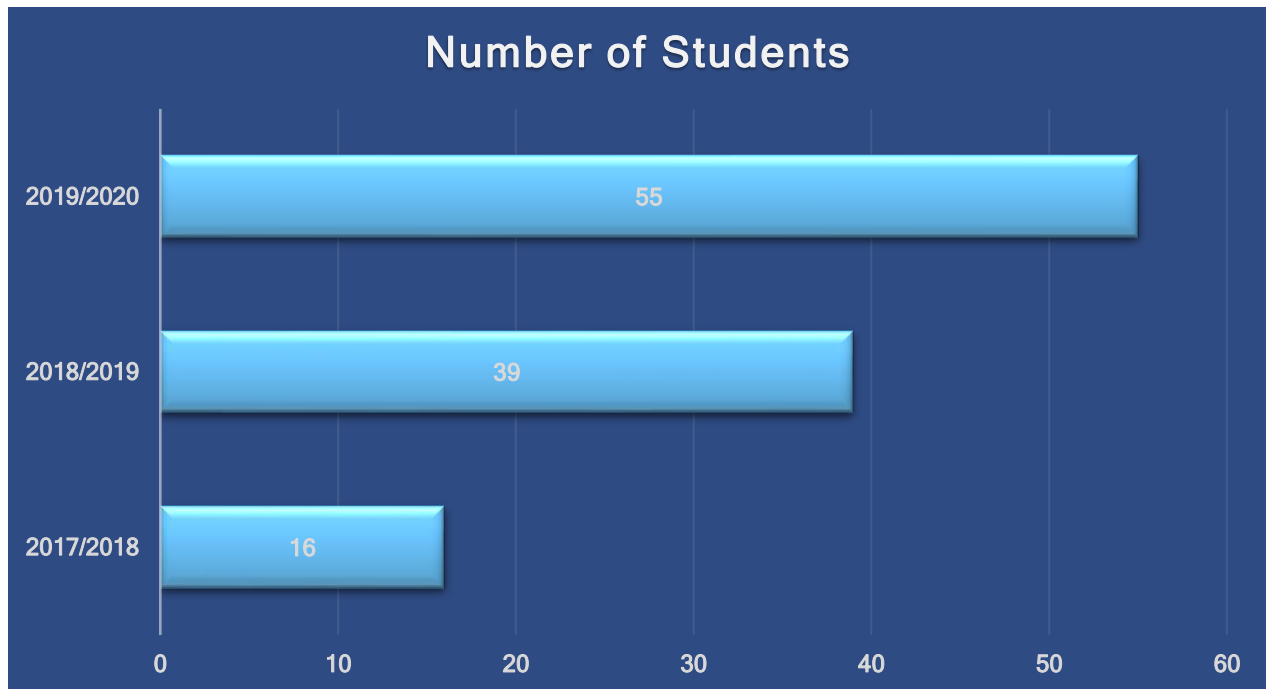
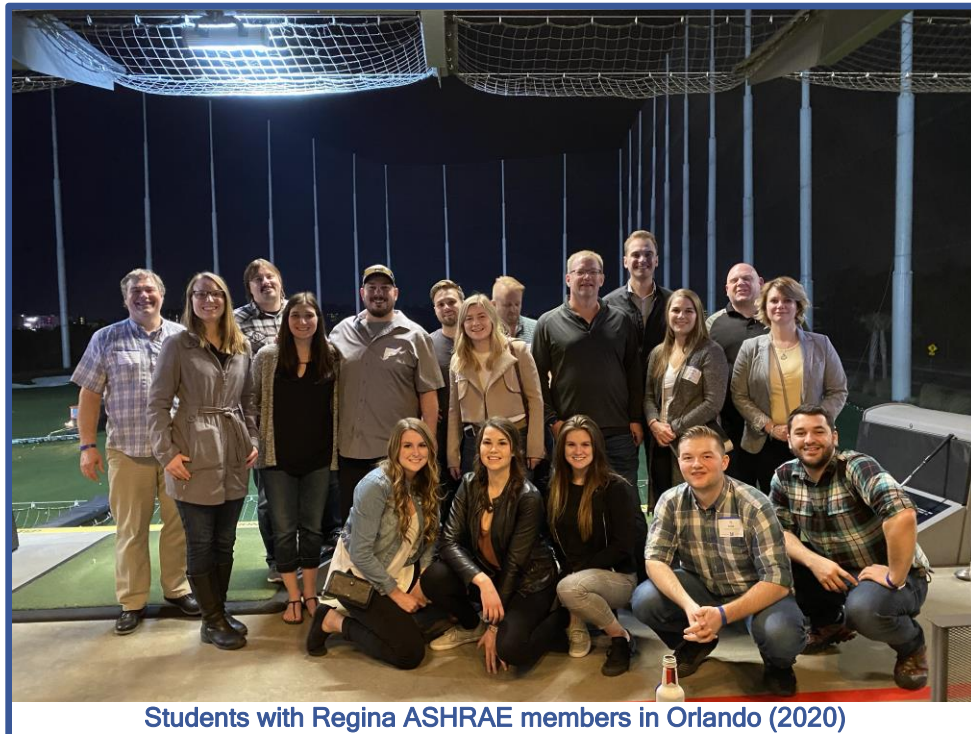


Figure 1: Registered Student Members



EVENTS

Summary of 2019-2020 Student Branch events:

What is ASHRAE?: Student Branch President, Kaylee Hayko, presented an introduction to ASHRAE, how ASHRAE can benefit students, and how to get involved. Dinner was provided free of charge for students in attendance. Marla Torwalt also presented to the students about upcoming Regina Chapter events and opportunities. (September 25, 2019)

Legislative Tunnel Tour: The ASHRAE Student Branch organized a building tour of the Legislative Power House. The tour was led by the Chief Engineer, Doug Elder, who presented on the components of the steam heating system and the chilled water system. Following the tour, there was a question and discussion period. (October 29, 2019)

ASHRAE 2020 Winter Conference: The Student Branch was fortunate to send seven (7) students to the 2020 ASHRAE Winter Conference in Orlando, Florida. Four (4) of the seven (7) students were afforded the opportunity to present at the student conference as they placed first in the ASHRAE Undergraduate Equipment Grant competition. All students had an opportunity to attend technical sessions, the student conference, and several networking events. (January 31-February 5, 2020)



Students at the AHR tradeshow in Orlando (2020)



AutoCAD Training Session

AutoCAD Training: ASHRAE Regina Chapter members introduced students to AutoCAD and demonstrated how to draw different components. The event was sponsored by Inland Metal. Students worked towards drafting a schematic for an air-handling unit. Lunch from Luther Cafe and snacks and coffee from Tim Hortons were provided for those in attendance. (January 18, 2020)



Resume Review Workshop

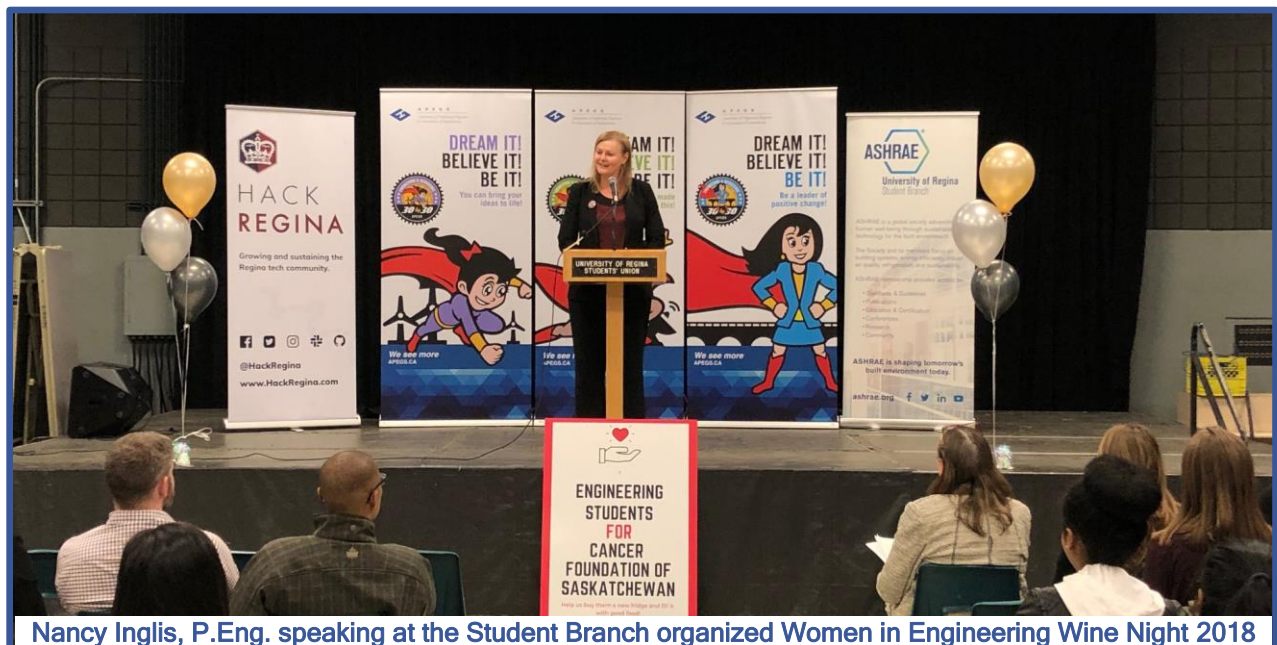
Resume Writing Workshop: ASHRAE Regina Chapter members attended a resume review workshop at the university. Industry partners from MacPherson Engineering, Inland Metal, and Stantec volunteered. Approximately 20 students attended. Coffee and pastries were provided. (March 12, 2020)

University of Regina Building Tour: The ASHRAE Student Branch was in the process of organizing a second building tour at the University of Regina. This was to be led by representatives from MacPherson Engineering. Due to the closing of the university amid the COVID-19 pandemic, the event is to be rescheduled for Fall 2020.

ASHRAE Regina Chapter Student Night: The Student Branch and Regina Chapter were planning to collaborate to host the April student night. The meeting was to consist of networking and student presentations. Due to the closing of the university amid the COVID-19 pandemic, the event has been postponed. (April 6, 2020)

Habitat for Humanity ReBuild Day: ASHRAE members were arranging details to volunteer at the current Regina Habitat for Humanity build site. This site is the second largest Habitat build in Canada. Due to the closing of the university amid the COVID-19 pandemic, the event has been postponed. (April 11, 2020)

Women in Engineering/ASHRAE Wine Night: ASHRAE Regina Chapter members and students were planning to gather to support Women in Engineering/ASHRAE. Local leaders were to speak on the importance of getting involved. Due to the closing of the university amid the COVID-19 pandemic, the event has been postponed. (April 15, 2020)



Nancy Inglis, P.Eng. speaking at the Student Branch organized Women in Engineering Wine Night 2018

ASHRAE UNDERGRADUATE EQUIPMENT GRANT

“The *ASHRAE Undergraduate Equipment Grants Program* provides funding to engineering, technical and architectural schools worldwide with the goal of increasing student knowledge, learning and awareness of the HVAC&R industry”¹.

In 2018, the University of Regina Faculty of Engineering and Applied Science and the ASHRAE Regina Chapter collaborated to establish an undergraduate HVAC&R course. Now entering the fourth year of the course, the Student Branch has been awarded a **\$5,000** grant to construct a portable variable-air-volume apparatus. The apparatus will serve as an advanced teaching tool to demonstrate the fundamental principles of air movement, heat transfer, and building control in the undergraduate HVAC&R laboratory.

“The apparatus will provide students with a practical learning experience that compliments their theoretical understanding.”

Design and construction of this teaching tool will further strengthen the relationship between the Student Branch, University of Regina and the ASHRAE Regina Chapter. Construction and ongoing maintenance of the apparatus will be completed by members of the Student Branch, under the supervision of the Student Branch Advisor. The apparatus will provide students with a practical learning experience that complements their theoretical understanding.



University
of Regina

¹ [ASHRAE Undergraduate Program Equipment Grants Program](#), accessed April 5, 2019

COMMUNITY INVOLVEMENT

The culmination of an engineering degree requires that students apply the knowledge gained through their formal education. Under the supervision of ASHRAE representatives, student members partnered with community groups to solve complex community-based problems. The projects have resulted in meaningful engagement with community groups and a stronger relationship between ASHRAE and the University of Regina. Two of the projects are briefly described below. To request the full reports, please contact the Student Branch.



THANK YOU TO OUR SPONSORS!



Energy Audit and Retrofit of Dr. John Archer Library

Project Team: Billy Howden, Liam Diebel, Ben Wiebe, and Taylor Sieber

An ASHRAE level 3 energy audit was performed on the Dr. John Archer Library to determine where energy is being consumed and highlight energy inefficiencies. Retrofitting the building envelope and mechanical system will provide an increase in energy savings while also improving thermal comfort for occupants. Proposed upgrades to the existing heat recovery system, lighting, insulation, and windows are analyzed using Trace700, an advanced energy-analysis software. Proposed upgrades comply with relevant ASHRAE standards and building codes regarding energy efficiency and thermal comfort. An economic analysis is performed on the proposed upgrades to determine feasible options for the University of Regina's Facilities Management team.

Closed Loop Hydronic System: Undergraduate Laboratory

Project Team: Kaylee Hayko, Kailey Lowe, Ty Cote, and Landon Bells

In 2018, the Faculty of Engineering and Applied Science collaborated with the ASHRAE Regina Chapter to establish an undergraduate heating, ventilation, air conditioning, and refrigeration (HVAC&R) course. Now entering the course's third year, laboratory equipment is required to demonstrate the fundamental principles of heat transfer, fluid mechanics, and building control. Senior undergraduate students are in charge of designing and constructing an interactive laboratory apparatus to encourage a better understanding of hydronic systems. Design and construction of the apparatus requires engineering design, use of engineering tools, economics, and project management. Construction of this laboratory apparatus is an innovative way for undergraduate students to assist with bridging the gap between industry and academia.



FINANCES

The Student Branch finished the 2019-2020 academic year with an operating surplus of **\$9,357.88**, which will be allocated towards 2020-2021 activities. The 2019-2020 revenue and expenditures for the Student Branch is shown in the below charts. The bank account has a balance of **\$13,568.65**.

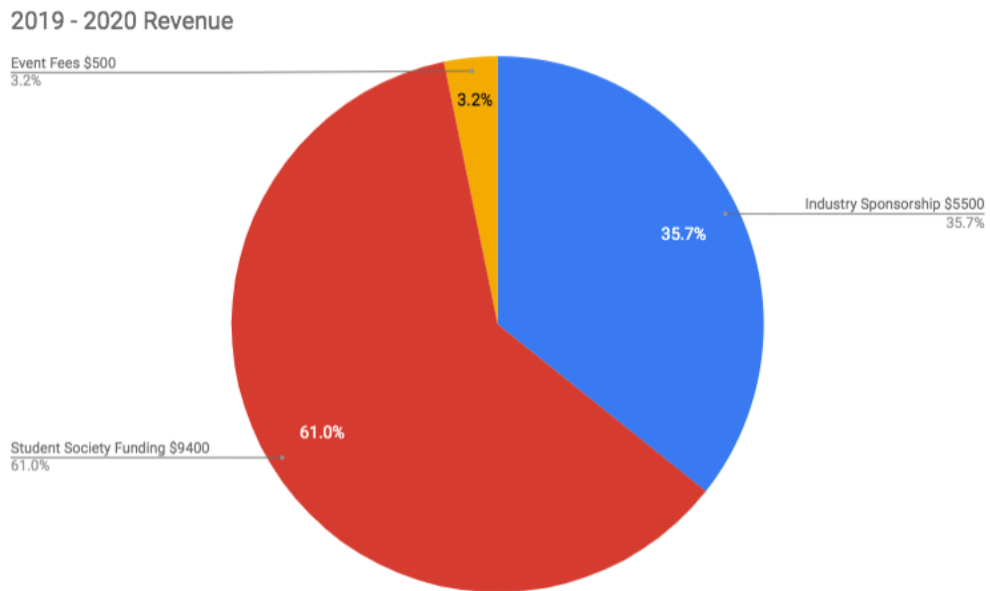


Figure 4: 2019-2020 Revenue

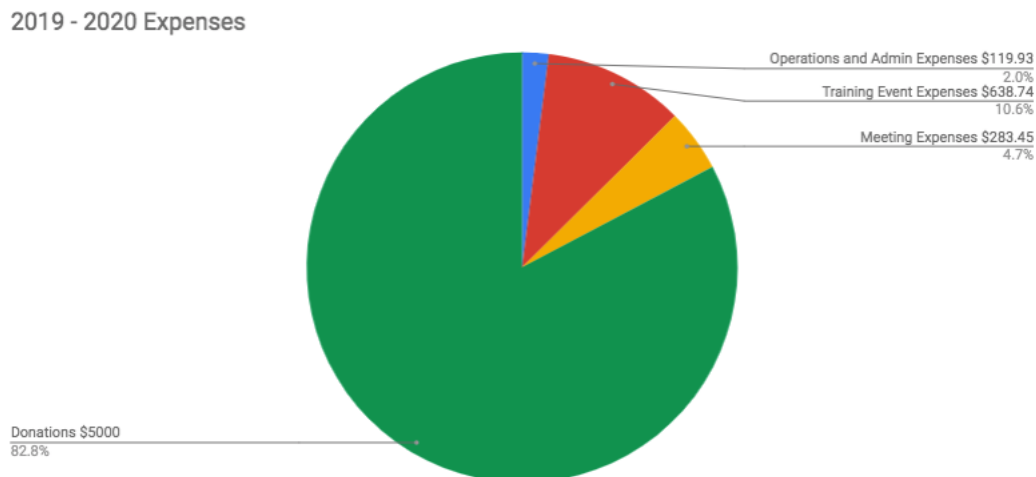


Figure 5: 2019-2020 Expenditures

EXECUTIVE TEAM

2019-2020 Executive Team

President: Kaylee Hayko

Vice President: Ty Cote

Treasurer: Ty Cote

Secretary: Sam Ferguson

Women in ASHRAE Chair: Emily Albano

Professional Affairs Chair: Quinn Legare

Academic Affairs Chair: Mason Babey

SBA: Brad Lulik

SPONSORS

The Student Branch would like to acknowledge our major sponsors:



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