



February 2018

## Alaska Chapter Newsletter Hot Gas Bypass

### Anchorage Meeting Information

Presentation:

Solar Thermal Energy Storage—Thesis  
Presentation

Presented By:

Phillip Hayes

Date:

Thursday,  
February 15, 2018

Time:

5:30 pm: Check-in  
6:00 pm: Dinner  
6:30 pm: Presentation

Location:

UAA Engineering & Industry Building (EIB),  
Room 217  
2515 Providence Dr, Anchorage, AK 99508

Cost:

Members: \$15  
Students: Free

### Alaska Chapter Officers and Chairs

Craig Rohwer, President

Craig.Rohwer@irco.com

Nathan Zeigler, President-Elect

Nathan.Zeigler@contractor.conocophillips.com

Tracy McKeon, Secretary

tmckeon@crweng.com

Cheyenne Alabanzas, Treasurer

calabanzas@rsa-ak.com

Ruth Armstrong, Grassroots Gov. Advocacy

rarmstrong@ak.net

Doug Franklin, Membership

dfranklin@stinebaugh.com

Brian Johnson, Student Activities / YEA

rbjohnson13@gmail.com

Jeff Hurd, Technology Transfer

Jeff.hurd@awwu.biz

Mak Kampen, Research Promotion

Matthew.Kampen@conocophillips.com

Jan Van Den Top, Historian

janvdtop@acsalaska.net

Alaska ASHRAE Chapter  
PO Box 244503  
Anchorage, AK 99524

### President's Message:

Hello Members!

Thank you all for attending January's Constructive Construction Feedback! It was a successful event with lots of positive responses and discussion. A special thank you to AJ Gangstad with Alaska Air Balance, Dave Bathke with Norcoast Mechanical, Brad Sordahl with MBA Consulting Engineers, and Craig Fredeen with Cold Climate Engineering for agreeing to join the front line. Thank you for your active participation and willingness to serve!

February is the month where we recognize engineers through National Engineers Week, E-Week. This February 17<sup>th</sup> - 24<sup>th</sup> is a designated time to celebrate and promote all engineering professions. There are several opportunities to serve in capacities as volunteers as events or to present topics in classrooms. Reach out to any of us on the Board if you have any questions or desire to present.

This month's topic comes from one of our young student members, Phil Hayes! He'll be presenting on his UAA Master's Thesis regarding Solar Thermal Energy Storage. We'll be hosted by UAA with many students in attendance. This is a great opportunity to connect with our emerging future professionals!

There's many exciting events and opportunities happening in our community this spring, don't hesitate to reach out and connect. Remember, "Someday" is not a day of the week!

Best Regards,

Craig Rohwer  
President, Alaska Chapter ASHRAE  
[crohwer@trane.com](mailto:crohwer@trane.com)



## Anchorage February Meeting:

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Solar Thermal Energy  
Storage – Thesis  
Presentation

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**Cost:**  
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Students: Free

**RSVP:**  
Please RSVP to  
Nathan Zeigler at:

**[Nathan.Zeigler@contractor  
.conocophillips.com](mailto:Nathan.Zeigler@contractor.conocophillips.com)**

**By noon on Wednesday  
February 14th**

### MODELING AND EXPERIMENTAL VERIFICATION OF SEASONAL SOLAR THERMAL ENERGY SAND-BED STORAGE

The building industry has seen major changes that stem from technology advancements in the capture, storage, distribution and end use of energy. These changes continue to build on themselves and open up new ways of thinking about and applying these technologies to our built environment. This month we are pleased to have Philip Hayes present his Masters Thesis on Solar Thermal Energy Storage.



Seasonal solar thermal energy storage shows great promise to bridging the gap between solar heating availability and solar heating demand. Philip's thesis investigated a hybrid seasonal solar thermal energy sand-bed storage system experimentally and numerically, and compared the results for further refinement of numerical simulations. The purpose of the evaluation was to determine the feasibility of hybrid seasonal solar thermal energy sand-bed storage for residential use. A home with evacuated tube solar thermal collectors which were connected to a hybrid seasonal solar thermal energy sand-bed storage system was built in Palmer, Alaska. Sensors were installed in the sand-bed and solar collector array to monitor system temperatures which were then compared against a numerical simulation. TRNSYS was used to complete the numerical simulation portion of this thesis.

The collected data was compared to a TRNSYS model to fine tune model parameters for a seasonal system simulation. Results from this analysis showed close agreement of the TRNSYS simulation to measured values. The findings from this study show that active solar thermal storage systems are recommended to supplement a home's living space heat load.

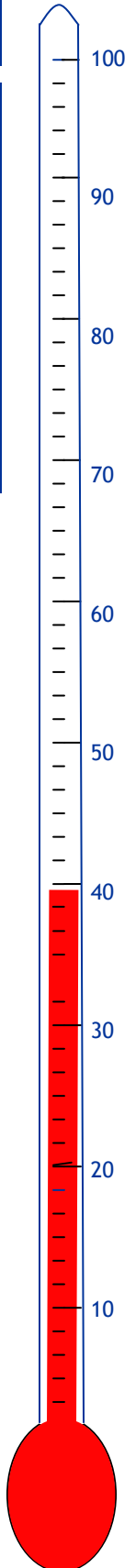
#### Directions:

Parking for the tour will be at the UAA South Parking Lot located across from the Wells Fargo Sports Complex and to the west of the EIB. From Providence Drive turn North onto Seawolf Drive and take your first right at the South Parking Lot entrance. UAA parking enforcement is in effect, so please follow all signage to ensure compliance with UAA parking policies.

## Research Promotion:

### 2017-2018 Research Investors, ASHRAE Alaska Chapter

<u>Organizations</u>	<u>Individuals</u>	
<u>\$1000 &amp; Over</u> Alaska Mechanical Contractors Association Inc. (AMCA) Alaska ASHRAE Chapter	<u>\$250—\$999</u> Jan Van den Top Douglas Murray	<u>Up to \$99</u> Scott Bell
<u>\$500—\$999</u> Design Alaska	<u>\$100-\$249</u> Nathan Zeigler Tracy McKeon Greg Jernstrom Doug LeCren	
<u>\$150—\$499</u> Aaron Plumbing & Heating	Mak Kampen Doug Franklin Cheyenne Alabanzas	
<u>Up to \$149</u> AK Winter, Inc.	Craig Rowher Mike Stinebaugh Jennifer Parkhurst	



Fellow ASHRAE Members,

Please review the upcoming RP Shootout announcement attached to this newsletter. With your help we can have a great time while raising money for ASHRAE Research! I hope to see many of you out on the range this Spring.

ASHRAE Research is essential to updates that are made to the Society’s standards and guidelines, which provide uniform methods of testing for rating purposes. The standards and guidelines suggest safe practices for design and installation and provide other information which guides the industry. Every dollar that is donated goes to ASHRAE Research! 100%!

If you are interested in donating towards the future of HVAC&R industry standards and practices please follow one of these three donation options:

- Go to <http://www.ashraerp.com> and click on “donate”.
- You can mail a check made out to “ASHRAE Research” please put “Alaska Chapter” in the memo line and mail to: ASHRAE Research 1791 Tullie Circle, NE, Atlanta, GA 30329.
- You can donate when you renew your membership on line. After you have made your selections for renewal the next page is for you to donate to ASHRAE funded items. About 3/4 of the way down the page you will see Research Promotion. Click “Add to Cart”

If you have already made a donation, your name should appear at the top of this page, if not, it should appear next month. Please feel free to contact me if your name is not present below and you made a donation or with any questions about ASHRAE Research Promotion; the ASHRAE Foundation; or the ASHRAE Learning Center.

Thank you very much for all of your support and dedication to your local ASHRAE Chapter.

Sincerely,

Mak Kampen, P.E.  
 Alaska Chapter Research Promotion Chair  
[Matthew.kampen@conocophillips.com](mailto:Matthew.kampen@conocophillips.com)





# ASHRAE—Alaska Chapter Presents:



## RP SHOOTOUT

Date: April 20, 2018  
Where: Birchwood Recreation & Shooting Park  
Time: 12:00 - 5:00 PM

Event: 1) 5 member teams will be competing in 2 rounds of skeet  
and 2 rounds of Trap  
2) Each team member will be provided with 3 boxes of ammunition.  
3) Lunch and drinks will be available.

Cost: \$150 per person

Benefit: All proceeds go to benefit ASHRAE Research Promotion

Shooters:

- 1) \_\_\_\_\_
- 2) \_\_\_\_\_
- 3) \_\_\_\_\_
- 4) \_\_\_\_\_
- 5) \_\_\_\_\_

Range Sponsorship: \$150.00

Company Name for Stand: \_\_\_\_\_

Ammunition Sponsor: \$500

Company/Individual Name: \_\_\_\_\_

Payment Method (please circle): Credit Card    Check

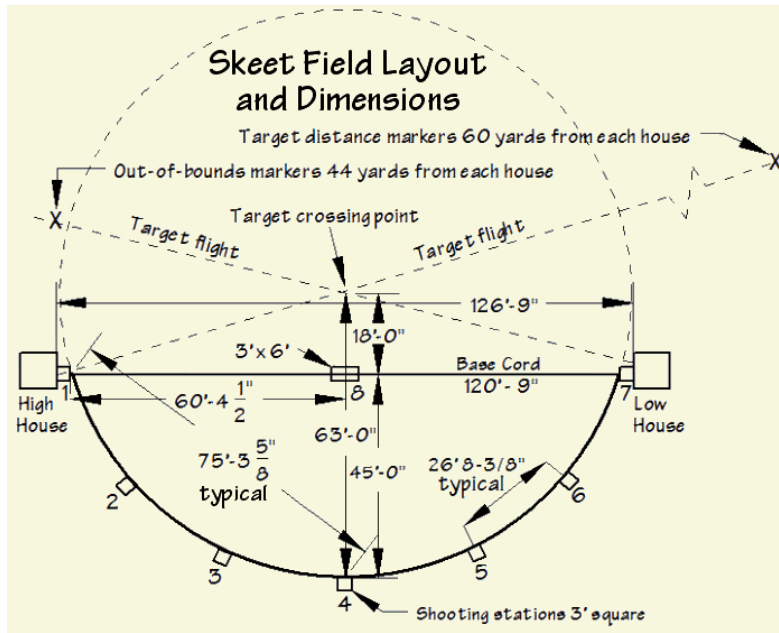
If Check, make payable to: "ASHRAE Alaska Chapter", PO Box 244503, Anchorage, AK 99524

For credit card payments complete the following for an invoice payable by secure server.

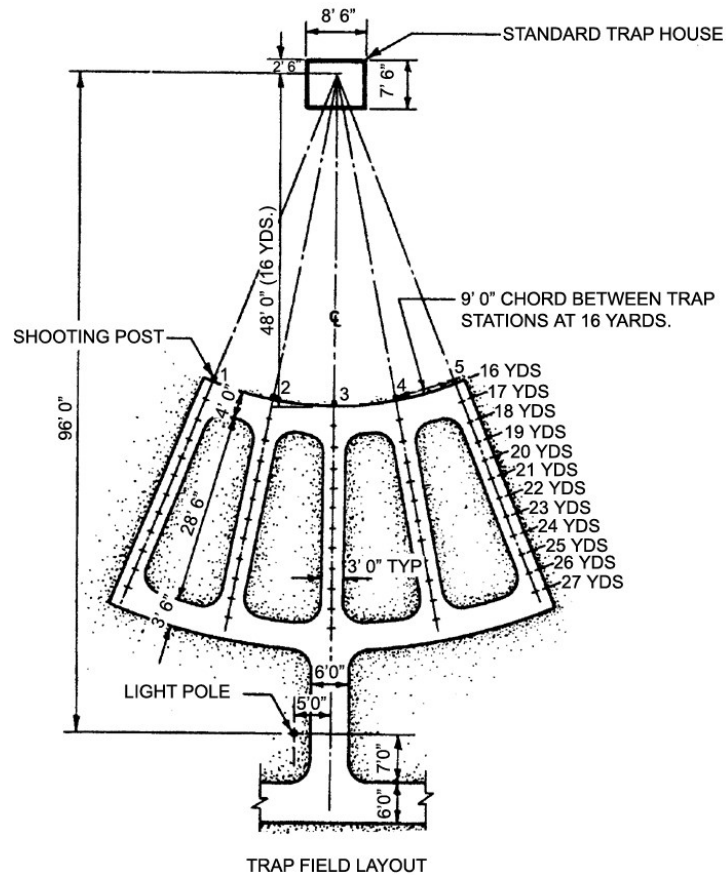
ASHRAE Research Promotion

Please complete form and send to Ruth Armstrong: rarmstrong@ak.net or Mak Kampen: Matthew.Kampen@conocophillips.com





### Trap Field Lay-



# CTTC Report for February 2018

## Continuing Education:

I'm looking for comments on setting up a seminar or two early this year (2018) for those who need continuing education hours. Due to the cost of the course/s we are looking for some good topics of interest that will be well attended. Please email me if you have any suggestions on course topics.

Here are some suggestions:

- ◆ **Healthcare Facilities: Best Practices for Design & Application**
- ◆ **Integrated Building Design**
- ◆ **Energy Modeling Best Practices & Application**
- ◆ **Air to Air Energy Recovery Fundamentals or Applications**

## Technology Award:

The chapter is trying to get individuals or companies to submit for the 2017-2018 ASHRAE Technology Awards for this year's (CRC) Chapters Regional Conferences. Please let me know if you have any questions. **Just email me and I'll send you the Technology Award Short Form.** This is a great way to get recognition for the projects that you and your colleague's have been working on. Technology awards include the following:

**Milton W. Garland Commemorative Refrigeration Award for Project Excellence** - *Recognizes a non-comfort cooling refrigeration app which highlights innovative and/or new technologies.*

**Refrigeration Comfort Cooling Award or Project Excellence** - *Recognizes designer and owner of a comfort cooling refrigeration app which highlights innovation and/or new technologies.*

**Technology Award of Engineering Excellence** - *Recognizes on an international scale, successful apps of innovative design which incorporates ASHRAE standards for effective energy management, indoor air quality and mechanical design management technology.*

**L.O. Crooks Refrigeration Award** - *to encourage excellence in Refrigeration activities and to promote interest in Refrigeration at the Chapter level.*

**Ralph Robson Technology Award** - *to recognize the best overall winning entry amongst all the categories in the Regional Technology Award Competition*

In addition there are a number of Technology Awards on a Regional level for outstanding engineering in effective energy management, indoor air quality, mechanical design management and innovative and/or new technology for:

- ◆ *New Commercial Facilities*
- ◆ *New Educational Facilities*
- ◆ *Existing Other Institutional*
- ◆ *New Residential*
- ◆ *New Public Assembly*
- ◆ *New Other Institutional*
- ◆ *New Health Care Facilities*
- ◆ *New Commercial Facilities*

If you have any questions or need additional information about submitting your project for an award please email me.

Thank you,  
 Jeffery D. Hurd (CTTC)  
 Project Management/Civil Engineer I  
 Anchorage Water and Wastewater Utility  
 Work (907) 786-5526 Cell (907) 317-7285  
 Jeff.hurd@awwu.biz

## Alaska Chapter Archives and History:

### THE HISTORY OF ENGINEER OF THE YEAR IN ANCHORAGE AND ASHRAE'S PARTICIPATION

#### THE HISTORY OF NATIONAL ENGINEERS WEEK.

**National Engineers Week** was established in 1951 by the National Society of Professional Engineers to help increase public understanding of the engineering profession. It is always celebrated around George Washington's birthday.

Our nation's first president was a military and agricultural engineer and a land surveyor. He founded the first U.S. engineering school at Valley Forge PA, which later became the U.S. Military Academy at West Point NY.

President Truman was the first U.S. president to send a public message of appreciation to the nation's engineers for Engineers Week. Every U.S. president since has also sent a message.

Today, engineers are essential for building and maintaining the systems that protect our health and safety, restore and protect our environment, make our factories run and contribute to our economic future. Yet, for all these contributions toward building a modern world, there are many people who are not aware of what the more than 1.6 million engineers in this country do. Engineers Week is a strong venue to inform or citizens of the value of engineers, celebrate engineering technology and innovation and cultivate interest in math, science and engineering among the nation's youth - tomorrow's work force.

In Anchorage Engineers Week programs have been held since 1969. The programs are sponsored by a coalition of engineering societies, government agencies, universities and major corporations representing thousands of engineers.

#### THE HISTORY OF ENGINEERS WEEK IN ANCHORAGE

Since the National Engineers Week was started by the National Society of Professional Engineers it is no surprise that the Alaskan activities related to Engineers Week were originated by the Alaskan Society of Professional Engineers. This society has three chapters: the Juneau, Fairbanks and Anchorage chapters. Each chapter has activities related to Engineers Week, but since ASHRAE is mostly active in Anchorage this history will limit itself to Anchorage activities.

We will describe the current Engineers Week events as they are observed in Anchorage and will follow a chronological order by listing the older events first.

**Student activities.** Our records indicate that probably in 1969 the first Engineers week was observed in Anchorage. That first observation included an excursion by high school student to local engineering projects. This activity has now grown into a tour of the oilfield facilities in Prudhoe Bay. Presentations by engineers in the grade schools, high schools and in university classes about the profession

## Alaska Chapter Archives and History (CONT.):

**Engineer of the Year.** Recognition of engineering accomplishments is one of the reasons for having an Engineers Week. The selection of an Engineer of the Year from the one finalist selected by each participating engineering organization has this as the main purpose. Each of the communities Anchorage, Fairbanks and Juneau make such a selection. The first nominations for and selection of an engineer of the year was done for the year 1974 in Anchorage. The award was presented to Frank Nyman P.E. during the Engineers Week celebration in February 1975. Since that time each year several organizations have presented nominations and a new engineer of the year has been selected. In Appendix A, we list all recipient of the award since 1974 with their affiliation and in Appendix B we list the ASHRAE nominations for all years since 1987, the first year ASHRAE participated. In those years two ASHRAE members have been awarded the title engineer of the year: Richard S. Armstrong P.E. and Ray Bhargava P.E. for the years 1993 and 1994 respectively. The selection process is straight forward. In December all participating societies provide a picture and resume of the finalist they have selected. Then the selection committee meets and last year's nominee presents this year's candidate. The chair of the committee is usually last year's engineer of the year and he receives the scores from all committee members, who score the candidates in various prescribes areas. The formal presentation of the result is done during the annual closing banquet or brunch at the end of Engineers Week.

**Engineers Week Banquet.** The Engineers Week in Anchorage is normally concluded with a formal event such as a Sunday brunch or a Saturday evening banquet. Over the years there have been many venues for this event. The program usually starts with the reading of the proclamations by the President, Governor and/or Mayor. Then there are the reports of the various event that took place during the week. This is followed by a nationally or local well know speaker on an engineering related subject. Then finally the recognition of the nominees for engineer of the year with at the end \of that the announcement of the title winner.

**Publication.** One of the reasons for Engineers Week is to acquaint the public with the engineering profession. That is why just before Engineers Week a publication is produced that usually features the proclamations, the pictures and resumes of the nominees for engineer of the year as well as some current engineering accomplishments. The last few years this publication has been a section of the February issue of the Alaska Business Monthly. Before that it had been a supplement to the daily newspapers and the Alaska Journal of Commerce.

**Exhibits.** Another way to enhance the purpose of acquainting the public with the engineering profession is an exhibit of various engineering firms, the engineering societies and again the pictures and resumes of the nominees for engineer of the year. Most recently this exhibit has been held in the Loussac Library. Before that the Dimond and Sears Malls were the venues.





## SOLAR PV PROJECT IN ARECIBO, PUERTO RICO

The hurricane events, such as hurricane Maria, illustrate the destructive potential of these storms for islands such as Puerto Rico. Puerto Rico's total energy consumption per capita is about one-third of that of the US, and its electricity consumption is about two-fifths. Much of the electricity is generated from imported petroleum, and power prices are higher than any state other than Hawaii. As of August, 2017, Puerto Rico's residential electricity rate was 20.5 cents a kWh, compared to 13.2 cents average for the rest of the US.

Renewable energy sources such as Photovoltaics (PV) can reduce the cost of electricity and have been identified by the Department of Energy (DOE) and American Society of Heating, Refrigerating and Air Conditioning (ASHRAE) as technologies that could mitigate impacts associated with changing weather patterns to a great extent, and can also provide a significant environmental benefit and make substantial contributions towards GHG emission reduction.

Mechanical Engineering graduate and undergraduate students at University of Alaska Anchorage, supported by the local ASHRAE chapter, are voluntarily working on the engineering design of PV for building electricity generation application at Arecibo, Puerto Rico, with the aim of installing the PV in summer of 2018. The purpose of the project is to give opportunity to our students to get involved in real-world practical engineering design, while helping communities in need.

Interested in helping out?!! Donations can be made at:

<https://www.gofundme.com/solar-pv-project-in-puerto-rico>

Funding raised will be used for this educational and community project, i.e. for the purchase of the necessary equipment, transportation and installation at Arecibo, Puerto Rico.

***The Alaska Chapter of ASHRAE will match donations from members up to \$1,000!***

## March is Election Month!!!

Please attend the monthly meeting to vote on open chair and officer positions. Positions currently on the ballot include:

- Electronic Communications Committee (ECC)
- Chapter Technology Transfer Chair (CTTC)
- Secretary
- Treasurer

If you are interested in volunteering your time and/or being part of the Governing Board of the Alaska Chapter of ASHRAE, please contact a current board member for more information.

Contact information is available on the front page of the newsletter for all current officers and chairs.



## VOLUNTEERS NEED E-WEEK STUDENT COMPETITIONS ASHRAE PARTICIPATION - SPAGHETTI TOWER COMPETITION



Date: February 17, 2018  
Time: 10 AM to 3 PM  
Where: University of Alaska, Anchorage

***We need 2-3 People for the full time. If we have 5 to 6 interested we can run shifts!***

This is a day of fun activities to inspire our future generation of engineers. Kids K-12 can participate in events, most requiring no advance preparation (materials are provided). Bring your family out and have fun!

If you can spare a few hours of your day to teach STEM to the next generation, Please Contact Mak Kampen at

[Matthew.Kampen@conocophillips.com](mailto:Matthew.Kampen@conocophillips.com)

**THANK YOU!**

## More Volunteer Opportunities:

ASHRAE Members,

FIRST in Alaska needs your help! Come watch East High Robotics compete for a chance to go to Super Regionals in Spokane, Washington along with 32 of the best Robotics teams in the State while supporting STEM and youth in Alaska. See below for more details!

# VOLUNTEERS NEEDED!

## Alaska's FIRST Tech Challenge Championship

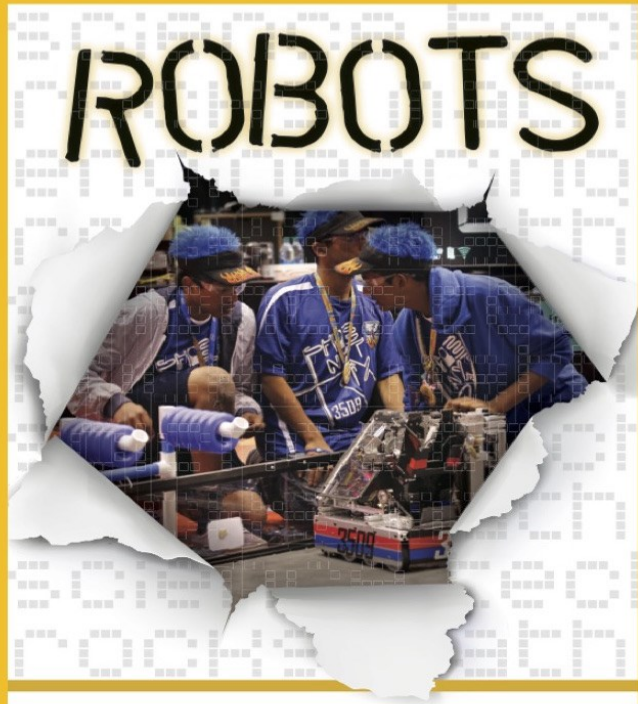
**WHO:** Volunteers of all ages and experience levels

**WHAT:** Serve as judges, referees, technical support, queuers, and other volunteer positions at the tournament

**WHEN:** Volunteer shifts range from full day to 4 hours. There's something for everyone!

- Fri, February 16, 1 PM – 9 PM
- Sat, February 17, 8 AM – 6 PM

**WHERE:** Wells Fargo Arena, University of Alaska Anchorage



SIGN UP: [jedc.org/firstinalaska/volunteer](http://jedc.org/firstinalaska/volunteer) CONTACT: [firstak@jedc.org](mailto:firstak@jedc.org)

# Volunteer with Us! We Need Your help!

## ASHRAE Volunteer Opportunities:

We currently have an open volunteer position that needs to be filled. Whether you are new to ASHRAE or have been a member of ASHRAE for years you Chapter needs you help. Volunteering at the chapter level helps you develop a better understanding of how the Society functions and how to receive the most benefit from your membership while contributing to the growth of ASHRAE.

Volunteering only takes a couple of hours a month. If you are interested we need to fill the:

- ◆ **Electronic Communications Committee (ECC):** The ECC identifies the electronic communication needs of the membership and staff, recommends and maintains policies, and ensures that the implementation of information technologies meets the objectives and needs of the Alaska Chapter and Society.
- ◆ **Chapter Technology Transfer Chair (CTTC):** The CTCC provides efficient and effective transfer of current and relevant information throughout the HVAC&R industry to and from the Chapters. CTTC develops and maintains high quality and readily available tools to enable Chapters to offer information and attractive industry-related information and programs to all segments within the HVAC&R industry. The CTT Chair coordinates Distinguished Lecturers visits, Technical Seminars for members, chapter programs, and administer CTTC specific



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## Save the Date:

**Next ASHRAE Meeting**

**Date: March 15, 2018**

**Officer and Chair Elections!**



**Tom Fisher**  
President

Email: [tomfisher@aaronak.com](mailto:tomfisher@aaronak.com)

2143 Standard Avenue  
Fairbanks, Alaska 99701  
website: [www.aaronak.com](http://www.aaronak.com)

Phone: 907-452-3463  
Mobile: 907-378-2804  
Fax: 907-456-1315



**Russel "Rusty" West**  
Alaska Sales Manager

Office: 425-774-6602  
Direct Line: 425-977-2139  
Mobile: 206-909-3664  
Fax: 425-775-2272

Email: [rwest@coleindust.com](mailto:rwest@coleindust.com)



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Fax: +1 907 563-6139  
[jim.mcdonough@siemens.com](mailto:jim.mcdonough@siemens.com)  
[usa.siemens.com](http://usa.siemens.com)

**Jim McDonough**  
Account Executive  
Building Automation

This page will be continually updated. Please get your business card in for the year of 2017-2018. Business cards run from Sept to Sept for \$100.00 per year. Please send your photo-ready card to [tmckeon@crweng.com](mailto:tmckeon@crweng.com)



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This page will be continually updated. Please get your business card in for the year of 2017-2018. Business cards run from Sept to Sept for \$100.00 per year. Please send your photo-ready card to [tmckeon@crweng.com](mailto:tmckeon@crweng.com)