October was a very active month for the ASHRAE Chapter. Our ASHRAE-ASME October Technical Seminar featuring Distinguished Lecturer Dr. Kishor Khankari, Ph.D., had an exceptional presentation and dialogue about airflow management in data centers. And, the First Annual Halloween on the Green Golf Tournament was a great success, with new changes made that were received very well by tournament participants. Thank you to all who attended, participated, and sponsored our Chapter events.

Outside of attending seminars and golfing, our ASHRAE Spacecoast Chapter members are giving back to local schools through the Chapter’s STEM K-12 outreach. Under the leadership of Jeanne Duce, P.E., our Chapter YEA and STEM K-12 Chair, she worked with her colleagues at BRPH on an eight-grade class activity encouraging students to consider pursuing a career in engineering. If you want to be a part of this outreach, e-mail Jeanne at YEA@SpacecoastASHRAE.org.

November will be just as active, with ASHRAE Society President and Distinguished Lecturer David Underwood, P.E., coming to the Space Coast in early November. He will be presenting at our ASHRAE-ASME November Technical Meeting on commissioning, and then recognizing members and encouraging prospective members to join at the Presidential Reception later that day. In mid-November, we will have our Young Professionals Mini-Golf Night, a new YEA Night tradition with the Young Members of the Society of American Military Engineers Space Coast Post. We have plenty of opportunities for you, the members, to network, learn, and make the most of your membership.
**Programs**

*By Kevin Riley, P.E., C.E.M.*

**ASHRAE Spacecoast Chapter Programs Chair**

The October Technical Seminar was a highlight program with high attendance and an engaging presentation by Dr. Kishor Khankari, pictured below, on Airflow Management Best Practices for Data Centers. We appreciate his time to present on this interesting topic.

Dr. Khankari explains the goal of data center cooling.

ASHRAE Society President David Underwood, pictured left, is coming to the Space Coast, and we want you to be a part of his welcome. Take this opportunity to network with members, meet with President Underwood, and share your thoughts on the present and future of ASHRAE.

The Chapter membership is invited to take part in two programs on the Space Coast:

**ASHRAE-ASME November Technical Seminar**  
**ASHRAE Society Presidential Visit**  
**Tuesday, November 10, 2015**  
Tuscany Grill ([Click here for the map.](#))  
Networking: 11:30 am; Lunch/Presentation: 12:00 pm  
Topic: Commissioning Tips, Tricks, and Techniques  
Cost: $15  
Worth 1 FBPE PDH

**ASHRAE Society Presidential Reception**  
**ASHRAE Membership Promotion Night**  
**Tuesday, November 10, 2015**  
Florida Solar Energy Center ([Click here for the map.](#))  
Networking: 6:00 pm; Presidential Message: 7:00 pm  
Topic: Making Connections (2015-16 Presidential Theme)  
No cost to FSEC Employees, ASHRAE members, and guests. Heavy appetizers and drinks will be served.

50/50 drawings will be held at the November Technical Seminar and the ASHRAE Society Presidential Reception, with all proceeds to benefit ASHRAE Research. One ticket is $5, and three tickets are $10.

To RSVP for the Technical Seminar or the Presidential Reception, please send an e-mail to Chapter@SpacecoastASHRAE.org. The Chapter will need a head count for both events.

Be sure to mark your calendar for the following upcoming seminars.

**ASHRAE-ASME January Technical Seminar**  
**Tuesday, January 12, 2016**  
Tuscany Grill ([Click here for the map.](#))  
Networking: 11:30 am; Lunch/Presentation: 12:00 pm  
Presenter: Allen M. Weiss, P.E., L.C.  
Topic: Using ASHRAE bEQ in the Federal Government  
Worth 1 FBPE PDH, 1 AIA LU, & 1 LA CES

**ASHRAE-ASME February Technical Seminar**  
**Tuesday, February 9, 2016**  
Tuscany Grill ([Click here for the map.](#))  
Presenter: ASHRAE Society Director-At-Large  
Mick Schwedler  
Topic: Using ASHRAE bEQ in the Federal Government  
Networking: 11:30 am; Lunch/Presentation: 12:00 pm  
Worth 1 FBPE PDH

**ASHRAE-ASME March Technical Seminar**  
**35th Chapter Anniversary Lunch**  
**Life Members Welcome**  
**Tuesday, March 8, 2016**  
Tuscany Grill ([Click here for the map.](#))  
Presenter:  
Topic: Florida Energy Code Updates  
Networking: 11:30 am; Lunch/Presentation: 12:00 pm  
Worth 1 FBPE PDH

**ASHRAE-ASME April Technical Seminar**  
**Tuesday, April 12, 2016**  
Tuscany Grill ([Click here for the map.](#))  
Presenter: Thom Billman  
Topic: Energy Efficiency and Applications of Variable Frequency Drive Motors  
Networking: 11:30 am; Lunch/Presentation: 12:00 pm  
Worth 1 FBPE PDH

**ASHRAE-ASME May Technical Seminar**  
**Tuesday, May 10, 2016**  
Tuscany Grill ([Click here for the map.](#))  
Presenter: Distinguished Lecturer & Technical Committee 7.3 Chair Robert G. Baker, OPMP  
Networking: 11:30 am; Lunch/Presentation: 12:00 pm  
Worth 1 FBPE PDH
History

In this issue of The Capsule, the ASHRAE Spacecoast Chapter is providing a history of a company that has impacted the HVAC/R industry on the Space Coast.

Company histories are not endorsements or advertisements for any company by the ASHRAE Spacecoast Chapter or the ASME Canaveral Section and are only provided for historical purposes.

**TLC Engineering for Architecture, Inc. (TLC)** began in Orlando in 1955 as a one-man structural engineering firm. Responding to the evolving complexity of building systems and market demands, TLC expanded its services to include MEP/FP, communications, technology, LEED design and consulting, commissioning, and energy management.

Growing to a current strength of 325 professionals and 10 offices in Florida, Louisiana, Tennessee, and Texas, TLC has design projects encompassing high-performance building design and consulting services on a wide array of building types, including health care, commercial, educational, institutional, hospitality, retail, entertainment, and more. TLC’s staff of specialty LEED Accredited Professionals, Certified Commissioning Authorities, Energy Management Professionals, and Building Energy Modeling Professionals has delivered 290 LEED-certified projects, as well as projects targeting compliance with the Florida Green Building Coalition, Green Globes, and the Living Building Challenge.

TLC was among the first MEP firms to commit to the AIA 2030 Challenge and continues to progress towards the aggressive goals embodied by this commitment.

TLC has completed several projects on the Space Coast and throughout Florida, including the following projects:

- **Cruise Terminal #1**
  - Port Canaveral, FL
  - 187,000 square feet / $50.5 million

- **Nemours Children’s Hospital**
  - Orlando, FL
  - 6 stories / $240 million.
  - Certified LEED NC 2.2 Gold

- **Duval County Unified Courthouse**
  - Jacksonville, FL
  - 7 stories / 51 Courtrooms / $220 million
  - Certified LEED NC 2.2 Silver

- **Fountainebleau Resort**
  - Miami Beach, FL
  - $400 million / 1.3 million square feet
  - Restoration & Expansion

For more information on TLC’s company history and projects that made a local HVAC/R impact, visit [www.tlc-engineers.com](http://www.tlc-engineers.com).

This article was written by Kathy Seidl, Marketing Coordinator with TLC, with coordination from John Constantinide, an ASHRAE Spacecoast Chapter member.

Ms. Seidl may be reached by phone at (321) 877-4213 and by e-mail at Kathy.Seidl@tlc-eng.com.
Resource Promotion

Thank you to the following sponsors for the First Annual Halloween on the Green Golf Tournament

**Hearse Cart Sponsor**

**Double Gravestone Sponsor**

**Gravestone Sponsors**

(Continued on Page 6.)
Young Engineers in ASHRAE (YEA)

By Jeanne Duce, P.E.
ASHRAE Region XII YEA Regional Coordinator & Spacecoast Chapter YEA Chair

Young Professionals Mini-Golf
Thursday, November 19, 6:00 pm
Golf N Gator
(6355 N. Atlantic Ave., Cape Canaveral, FL 32920)

Join us for a great night of mini-golfing, dinner, and mingling on the Space Coast. And, families and kids are welcome to come to this event.

For 18 holes, prices are $10.99 for adults and $8.99 for kids ages 8 and under. For 36 holes, prices are $13.99 for adults and $11.99 for kids ages 8 and under. And, you can feed the gators for a nominal price.

After mini-golfing, have dinner with us at Papa Vito’s across the street.

This YEA event is organized with the Young Members of the Society of Military Engineers. Come out and meet other young professionals at this joint event.

To RSVP, please send an e-mail to Chapter@SpacecoastASHRAE.org. The Chapter will need a head count for mini-golfing and dinner afterwards.

Student Activities

By Dr. Hamidreza Najafi, Ph.D.
ASHRAE Spacecoast Chapter Student Activities Chair

The ASHRAE Florida Institute of Technology (FIT) Student Branch enjoyed the lecture provided by Dr. Kishor Khankari, pictured below. We appreciate his time to come and speak with the students.

The Student Branch has two fall lectures and an information session provided by the ASHRAE Spacecoast Chapter at the FIT Melbourne Campus:

ASHRAE Open Forum for Students
ASHRAE Society Presidential Visit
Monday, November 9, at 3:30 pm
Presenter: ASHRAE President & Distinguished Lecturer T. David Underwood, P.E.
Topic: Student Benefits for Being an ASHRAE Student Branch Member

ASHRAE November Lectures
ASHRAE Society Presidential Visit
Monday, November 9, at 5:00 pm
Lectures to be presented in Thermal Systems Design and HVAC classes.
Presenter: ASHRAE President & Distinguished Lecturer T. David Underwood, P.E.
Topic: Career Opportunities for Students in ASHRAE

These lectures are free to FIT students and provided by the ASHRAE Spacecoast Chapter.

For updates about the ASHRAE-ASME FIT Student Branch’s activities, please visit their page at www.SpacecoastASHRAE.org under the Student Branch section of the website.

To become involved with helping and mentoring the ASHRAE-ASME FIT Student Branch, please e-mail Dr. Najafi at FIT@SpacecoastASHRAE.org.
Content reprinted courtesy of ASHRAE Region X

Since 1919, ASHRAE has supported research to improve the quality of life. ASHRAE Research impacts the industry by improving the way HVAC&R systems work, how they are applied, and allow development of technical information to create standards and guidelines, which serve as the basis for testing and design practices around the world.

The Society funds thousands of projects addressing topics such as sound, duct design, the effect of oil refrigerants, load calculations, thermal conductivity, simplified energy analysis procedures, weather data, refrigerant property data, fire and smoke control, and solar design. The most significant ASHRAE research is in the areas of human comfort and the properties of materials and systems used in buildings and refrigeration systems.

How does ASHRAE Research help my health?
ASHRAE Research is working in the health arena to help:
• Prevent more than 70,000 surgical site infections that occur each year
• Decrease the spread of airborne diseases
• Improving cancer treatment methods

How does ASHRAE Research help me in the workplace?
ASHRAE Research is learning more about how commercial buildings can:
• Conserve energy in hot and humid climates
• Select boilers for efficient heat use
• Allow drifting temperatures to save energy

How does ASHRAE Research help me in my home and my children at their school?
ASHRAE Research is:
• Exploring whether temperature and air quality improve the performance
• Understanding the relationship between occupant health and ventilation rates
• Evaluating how food preservation is influenced by storage conditions

Whether it is improving the work setting in an office building to increase productivity or providing guidelines for emerging technologies, ASHRAE Research helps engineer the world we live, creating better indoor and outdoor environments around the globe.

This would not be possible without the individuals and organizations that have chosen to support ASHRAE’s vision with their financial contributions.

To continue our progress, we need your support as well.

Here are two easy ways you can support ASHRAE Research:
• Sign up for the Space Congress® Golf Tournament on Friday, May 27 at Cocoa Beach Country Club (5000 Tom Warriner Blvd., Cocoa Beach, FL 32931). Click here for more information and to register for the tournament. Proceeds will benefit the Space Congress® Scholarship Endowment Fund through the ASHRAE Foundation.
• Click here to make a donation to ASHRAE Research. Make sure you credit the ASHRAE Spacecoast Chapter for your donation.

Space Congress® is a registered trademark of the CCTS.

**Refrigeration**

By Michael Constantinide, P.E.
ASHRAE Spacecoast Chapter Refrigeration Chair

Our next Refrigeration Night is the ASHRAE/SAME/ASME Microbrewery Tour on Wednesday, January 13, 6:00 pm at the Playalinda Brewing Company (305 S. Washington Ave., Titusville, FL 32796).

Join us as we continue the Spacecoast Chapter’s annual tradition of touring local microbreweries, learning how each one differently brews amazing beers.

The Microbrewery Tour is also a YEA Night, so we encourage young professionals from ASHRAE, SAME, and ASME to come and enjoy the tour.

If you plan to attend, please RSVP by sending an e-mail to Chapter@SpacecoastASHRAE.org. A headcount is needed to schedule tours.
Support our sponsors!
They support ASHRAE.

Advertise your company here and on our website for 1 year.
The cost? Just $75.
E-mail Mark Thornbloom
Treasurer@SpacecoastASHRAE.org

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For just $75, have your company advertise for one year in The Capsule and recognized on the Chapter website.
Plus, your company will get a certificate and recognition at a Chapter seminar.

Purchase your Chapter sponsorship online at www.SpacecoastASHRAE.org.
**ASHRAE Learning Institute**

**Seminars & Courses at ASHRAE’s Winter Conference in Orlando, FL**

### 2 WAYS TO REGISTER

- **Internet:** [www.ashrae.org/orlandocourses](http://www.ashrae.org/orlandocourses)
- **Phone:** Call 1-800-527-4723 (US and Canada) or 404-636-8400 (worldwide)

### Full-Day Professional Development Seminars

<table>
<thead>
<tr>
<th>Course</th>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Building Energy Audits</td>
<td>Saturday, January 23, 2016</td>
<td>8:00 a.m. to 3:00 p.m.</td>
</tr>
<tr>
<td>Commissioning Process in New &amp; Existing Buildings</td>
<td>Saturday, January 23, 2016</td>
<td>8:00 a.m. to 3:00 p.m.</td>
</tr>
<tr>
<td>Designing HVAC Systems to Control Noise &amp; Vibrations</td>
<td>Saturday, January 23, 2016</td>
<td>8:00 a.m. to 3:00 p.m.</td>
</tr>
<tr>
<td>Energy Modeling Best Practices and Applications</td>
<td>Tuesday, January 26, 2016</td>
<td>9:00 a.m. to 4:00 p.m.</td>
</tr>
<tr>
<td>Operations &amp; Maintenance of High-Performance Buildings</td>
<td>Tuesday, January 26, 2016</td>
<td>9:00 a.m. to 4:00 p.m.</td>
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</table>

### Half-Day Short Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory Design: The Basics and Beyond</td>
<td>Sunday, January 24, 2016</td>
<td>3:30 p.m. to 6:30 p.m.</td>
</tr>
<tr>
<td>Troubleshooting Humidity Control Problems</td>
<td>Sunday, January 24, 2016</td>
<td>3:30 p.m. to 6:30 p.m.</td>
</tr>
<tr>
<td>Understanding &amp; Designing Dedicated Outdoor Air Systems</td>
<td>Sunday, January 24, 2016</td>
<td>3:30 p.m. to 6:30 p.m.</td>
</tr>
<tr>
<td>Variable Refrigerant Flow System Design &amp; Applications <strong>NEW!</strong></td>
<td>Sunday, January 24, 2016</td>
<td>3:30 p.m. to 6:30 p.m.</td>
</tr>
<tr>
<td>Air-to-Air Energy Recovery Applications: Best Practices</td>
<td>Monday, January 25, 2016</td>
<td>8:30 a.m. to 11:30 a.m.</td>
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<tr>
<td>Applications of Standard 62.1-2013</td>
<td>Monday, January 25, 2016</td>
<td>8:30 a.m. to 11:30 a.m.</td>
</tr>
<tr>
<td>Building Demand Response &amp; the Coming Smart Grid</td>
<td>Monday, January 25, 2016</td>
<td>8:30 a.m. to 11:30 a.m.</td>
</tr>
<tr>
<td>Energy Management Best Practices</td>
<td>Monday, January 25, 2016</td>
<td>8:30 a.m. to 11:30 a.m.</td>
</tr>
<tr>
<td>Avoiding IAQ Problems</td>
<td>Monday, January 25, 2016</td>
<td>2:45 p.m. to 5:45 p.m.</td>
</tr>
<tr>
<td>Commissioning Process &amp; ASHRAE Standard 202</td>
<td>Monday, January 25, 2016</td>
<td>2:45 p.m. to 5:45 p.m.</td>
</tr>
<tr>
<td>Complying with Standard 90.1-2013: HVAC/Mechanical</td>
<td>Monday, January 25, 2016</td>
<td>2:45 p.m. to 5:45 p.m.</td>
</tr>
<tr>
<td>Evaluation and Control of Legionella in Building Water Systems <strong>NEW!</strong></td>
<td>Monday, January 25, 2016</td>
<td>2:45 p.m. to 5:45 p.m.</td>
</tr>
<tr>
<td>Exceeding Standard 90.1-2013 to Meet LEED Requirements</td>
<td>Monday, January 26, 2016</td>
<td>9:00 a.m. to 12:00 p.m.</td>
</tr>
<tr>
<td>IT Equipment Design Evolution &amp; Data Center Operation Optimization</td>
<td>Monday, January 26, 2016</td>
<td>9:00 a.m. to 12:00 p.m.</td>
</tr>
<tr>
<td>Designing High-Performance Healthcare HVAC</td>
<td>Monday, January 26, 2016</td>
<td>1:00 p.m. to 4:00 p.m.</td>
</tr>
</tbody>
</table>

### ASHRAE HVAC Design Training

**2 Courses, 5 Days of Intense Instruction**

- **Atlanta**
- **Halifax**
- **Hong Kong**
- **Houston**
- **Kuala Lumpur**
- **Miami**
- **Minneapolis**
- **Vancouver**

**HVAC Design: Level I – Essentials** - Registration is $1,264 ($1,009 ASHRAE Member)

Gain practical skills and knowledge in designing and maintaining HVAC systems that can be put to immediate use. The training provides real-world examples of HVAC systems, including calculations of heating and cooling loads, ventilation and diffuser selection using the newly renovated ASHRAE Headquarters building as a living lab.

**HVAC Design: Level II – Applications** - Registration is $854 ($699 ASHRAE Member)

*HVAC Design: Level II — Applications* provides instruction on HVAC system design for experienced HVAC designers and those who complete the HVAC Design: Level I – Essentials training. The training provides information that allows practicing engineers and designers an opportunity to expand their exposure to HVAC systems design procedures for a better understanding of system options to save energy.

Visit [www.ashrae.org/hvactraining](http://www.ashrae.org/hvactraining) to register.
Making Net Zero Net Positive: Solving the Efficiency & Cost Paradox | April 21, 2016 | 1–4pm

This webcast will feature industry experts who will define the importance of, and why we should strive for, net zero in the built environment. Viewers will be able to identify behaviors that create more effective ownership, design and construction teams, and will recognize the value of a collaborative process in building design and the impact on costs. With a strong emphasis on real-world applications, the program will also discuss the primary technical and financial challenges in achieving net zero buildings, and where this design approach can best be applied.

Attend this FREE webcast program and you may be awarded three Professional Development Hours (PDHs).
2015-2016 ASHRAE Spacecoast Chapter Leadership

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President@SpacecoastASHRAE.org

President-Elect
Opportunity available. E-mail John Constantinide to apply.

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Governor
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Programs@SpacecoastASHRAE.org

Membership Promotion & Electronic Communications
John Constantinide, E.I., C.E.M., M.S.
MP@SpacecoastASHRAE.org

Resource Promotion & Grassroots Government Advocacy
Scott Seigel, P.E., LEED AP, C.E.M., CxA, O.P.M.P.
RP@SpacecoastASHRAE.org

Young Engineers in ASHRAE (YEA) & STEM K-12
Jeanne Duce, P.E.
YEA@SpacecoastASHRAE.org

Student Activities
Dr. Hamidreza Najafi, Ph.D.
SA@SpacecoastASHRAE.org

Refrigeration & Auditing
Michael Constantinide, P.E.
Refrigeration@SpacecoastASHRAE.org

E-mail John Constantinide to apply for one of the following opportunities:

- Historian
- Honors & Awards
- Newsletter
- Website
- Sustainability
- CCTS Representative & Alternate

ASHRAE Spacecoast Chapter is on the web!

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2015-2016 ASME Canaveral Section Leadership

Section Leadership

President
JD Van Gilder

Committee Members
Scott Seigel, P.E., LEED AP, C.E.M., CxA, O.P.M.P.
Dr. Dwight Easterly, Ph.D.

For more information, contact JD Van Gilder at SA@SpacecoastASHRAE.org.