

## Kellie Huff

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**From:** Larry Hodgins <Larry=LJHpe.com@mail99.atl91.mcsv.net> on behalf of Larry Hodgins <Larry@LJHpe.com>  
**Sent:** Friday, November 07, 2014 5:52 AM  
**To:** Kellie Huff  
**Subject:** Central Arizona Chapter ASHRAE -- Newsletter November 2014

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November 2014

# Dust Devil



This newsletter describes the activities of ASHRAE Central Arizona Chapter 086

It does not present official positions of the Society nor reflect Society policy

ASHRAE chapters may not act for the Society and the information presented here has not had Society review

[www.ashrae.org](http://www.ashrae.org)

## President's Message



by Colin Laisure-Pool, PE

Hello and welcome to another month in ASHRAE! As we approach the cooler weather and the holidays, I just want to remind everyone of a few key events in the coming months:

- November 11<sup>th</sup> Meeting: Sensorless Pumps. Since this is on Veteran's Day, vets eat free!
- November 15<sup>th</sup>: Trap Shoot.

# November Meeting!

'Demystifying Self-Sensing Pumps'

with

[Richard Medairos,](#)

[PE](#)

## **Lunch Meeting!**

November 11th

11:30am

[Radisson Hotel](#)

427 N 44th Street

Phoenix AZ 85008

[Click here to RSVP!](#)

## **in November...**

'I-10 Trap Shoot Classic'

with Shot Guns

Daytime Shooting

November 15

1:30pm to 4:30pm

[Casa Grande Trap](#)

[+ Skeet](#)

[Additional](#)

[Information...](#)

Please sign up online today – this should be a fun event for all.

- December 9<sup>th</sup> Meeting: Smoke Control Systems
- December 11<sup>th</sup>: Holiday Social at Four Peaks Brewery

I look forward to seeing you all soon.

Regards,

- Colin



## **Article One of Four**

**Cannon Design's Environmental Awareness Week, Stotz Dairy, and the Beatles in Mono**  
*by Elyse Cocco, PE -- Sustainability Chair*

Greetings ASHRAE members. Were you able to

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## Important Links

### Chapter's Leadership

- [Officers, Board Members and Committee Heads](#)

### Newsletter PDF

- [to download](#)

### Research Promotion

- [to contribute](#)  
- [Honor Role contributors](#)

### Membership

- [to join](#)  
- [to advance to Member](#)

### Calendar

- [to download](#)  
(09/18/2014)  
(prior 09/03/2014)

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## Ads from ASHRAE

### ASHRAE Learning Institute -- 09/2014

- [to download and Learn](#)

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## News from ASHRAE

[ASHRAE Announces Recipients of Student Design Competition: Applied Engineering Challenge](#)

[DOE Updates National Reference Standard for](#)

find the 13 Beatles song titles in last month's sustainability article? I will list them at the end of this article for your reference.

This month in sustainability, we have a chat with Jeff Nudi of CannonDesign regarding last week's Environmental Awareness Week events. Next, a story from Gabe Millican of SmithGroup JJR regarding Stotz Dairy Farm and some arresting new technology. And to finish it off, we'll return to the Beatles and discuss the latest versions being issued on vinyl.

### Part I -- Jeff Nudi, PE

*Elyse: Tell me about Environmental Awareness Week. How long has it been happening?*

Jeff Nudi: This will be our 12th annual event. Environmental Awareness Week is CannonDesign's annual celebration of smart ideas, innovative technologies, and iconoclastic thinkers that help guide our progress toward becoming a regenerative practice.

Our commitment to E.A.W. year after year is informed by collective spirit of generosity to our clients, our employees, our profession and our communities.

*E: What events are happening as part of E.A.W. week?*

J: Tuesday, Wednesday and Thursday we will have speakers in our east coast offices broadcasting to all

[Commercial Buildings to 90.1-2013](#)

[ASHRAE, AHR Expo Return to Chicago for 2015 Winter Conference, Expo](#)

[ASHRAE Releases Legionellosis Standard for Fourth Public Review Draft](#)

[ASHRAE Selected as 2014 Best of Building Award Recipient by USGBC Members](#)

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**Competitions**  
**Requesting Volunteers**  
**and Sponsors**

- [www.futurecityarizona.org](http://www.futurecityarizona.org)  
- [www.smartcompetition.org](http://www.smartcompetition.org)

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November 2014  
*Larry Hodgins, PE*  
*Newsletter Editor*

Please share your comments and questions with me using email, telephone, or in-person.

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of our regional offices.

Tuesday: Vishann Chakrabarti, Principal of SHoP Architects, and Director of CURE, Columbia University; Wednesday: Amy Larkin, Entrepreneur, activist and author; and Thursday: Lindsay James, Vice President of Restorative Enterprise, Interface.

Our live local event will be held at the Irish Cultural Center (1106 N Central Avenue, Phoenix) on Friday, October 31 at 9:30am. Our speaker will be Dan O'Neill, General Manager of Global Sustainability Solution Services for the Global Institute of Sustainability at the ASU School of Sustainability.

Dan will present "*The Circular Economy – The City of Phoenix Solution to the Solid Waste Problem*" and will discuss opportunities for the city. Refreshments will be served.

*E: Which Beatles album have you listened to the most?*

J: That is a tough one. I have two playlists on my iPhone. U2 -- 40 songs, 175 minutes, and The Beatles -- 596 songs, 1664 minutes. I will call it a three-way tie: The White Album, Abbey Road, and Sgt. Pepper's Lonely Hearts Club Band.

*E: Can you tell us about your background?*

J: I was born in Pittsburgh, PA, raised in and around Saratoga Springs, NY, and spent ten years in St.



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+1

Louis, MO on my way to Phoenix. I have lived here for a little over 6 years.

I graduated from Union College in Schenectady, NY (NCAA Mens Division 1 Hockey National Champions as of April, 2014). I received a BSME degree, and I have been practicing engineering ever since. I knew in school that my career would be in building systems engineering.

I am licensed in several states. I have been a principal at CannonDesign for several years; I am the director of engineering for the western region, as well as the director of sustainability for the region. I am an active member of our corporate sustainability committee. I have been a LEED AP since 2001.

My escape from reality is my motorcycle, which has taken me coast to coast several times. When I can't get away for a long ride, a trip to the golf course will often help me regain my focus.

## **Part II -- Gabe Millican, PE**

Growing up in the suburban metropolis of Southern California, I never saw a cow except maybe on the side of a freeway. Fate would have me marry into a large dairy/farming family from Buckeye.

Stotz (pronounced "stotes") Dairy has, at the time of writing, approximately 15,000 head of Holstein cattle across 2 facilities and approximately 5,000 acres of dedicated farmland to support the cattle (and that's not even enough land!).

At Stotz Dairy our goal is to be one of the most sustainable and highest producing milk suppliers in the state. This can only be done by treating each animal as if it is your only animal and caring for it as you would a pet. The dairy milks 24 hours a day and each cow is milked 3 times a day. All the raw milk is screened, filtered, tested, chilled (34°F) and shipped around the clock to the United Dairymen of Arizona (UDA) Co-op and processing plant in Tempe.

As you can image with 15,000 animals the amount food and water that they consume turns quite noticeably into manure. Cows used to get a stigma for contributing to global warming, but now we have turned them into producers of renewable energy.

In 2011, Stotz Dairy implemented a Methane Digester that produces 600 kW of energy tied directly into the APS grid by covering a 12 acre lagoon to contain all the effluent.

By covering the lagoon, thus removing its oxygen and light source, we create an anaerobic environment. The naturally occurring bacteria breaks down the effluent and produces a range of chemicals -- most notably methane.

[Attached is a diagram of the system.](#) You'll notice that the heat output of the generator is transferred back into the lagoon, aka fuel source, to keep the anaerobic digestion at an optimal temperature.

Here are some key facts about the system:

- 12 acre lagoon covered to capture methane.
- By covering the lagoon, 9 million gallons per year of water is saved from evaporation. This water is in turn pumped on to nearby fields to water crops which feeds the cows.
- Generator is 1000 HP operating at 1200rpm with 600 kW continuous output and 750kW peak.
- In addition to the energy produced, carbon credit offsets can also be obtained as we're eliminating 50 million cu.ft. of greenhouse gases.
- Stotz Dairy is the second dairy in Arizona to implement this technology.

Personally I am excited and honored to consider myself part of a dairy and farming family as well as an Engineer. I now realize the effort and care that goes into feeding America. I realize how far separated the average American is from the people who are producing their food. We are not fed by supermarkets and restaurants, we're fed by hardworking men and women pushing for a more sustainable way to feed the growing population.

And of course, sticking with the theme, the last Beatles song I heard was "Lucy in the Sky With Diamonds" as we were rocking our daughter, Lucy, to sleep.

### **Part III -- The Beatles in Mono**

The Beatles in Mono is a boxed set compilation

comprising the remastered monaural recordings by The Beatles.

The remastering project for both mono and stereo versions was led by EMI senior studio engineers Allan Rouse and Guy Massey. The boxed set was remastered, this time from the actual tapes and not the digital process, again on 180-gram heavyweight vinyl, and was re-released on 8 September 2014.

The Mono Boxed Set was released to reflect the fact that most of the Beatles' catalogue was originally mixed and released in the monophonic format.

Stereo recordings were a fairly new concept for pop music in the 1960's and didn't become standard until the late sixties. This explains why the Beatles initial album releases were mixed for mono.

By the late sixties, however, stereo recording for pop music was becoming more popular and, thus, the new standard. Therefore, the last few Beatles albums were mixed and released only in stereo - "Yellow Submarine," "Abbey Road" and "Let It Be."

Many feel that the mono mixes reflect the true intention of the band. For example, in the case of Sgt. Pepper's Lonely Hearts Club Band, all the mono mixes were done together with the Beatles themselves, throughout the recording of the album, whereas the stereo mixes were done in only six days by Abbey Road personnel George Martin, Geoff Emerick and Richard Lush after the album

had been finished, with none of the Beatles attending.

#### **Part IV -- To close last month's article...**

And since we're on the topic, here are the Beatles' song titles that were used in last month's article:

"Let It Be," "Come Together," "Yesterday," "From Me to You," "A Hard Day's Night," "Tell Me Why," "We Can Work It Out," "Because," "The End," "Hello Goodbye," "Help!," "Across the Universe," and "Eight Days a Week."

And as an added bonus, Bob Dylan's "Times They are a'Changin'" was also included. Let me know if you like the Beatles theme, and if there's anything else you'd like to see in the monthly sustainability article ([elyse.cocco@hei-eng.com](mailto:elyse.cocco@hei-eng.com)). Thanks to Jeff and Gabe for contributing this month.

References:

[http://en.wikipedia.org/wiki/The\\_Beatles\\_in\\_Mono](http://en.wikipedia.org/wiki/The_Beatles_in_Mono)

### **Article Two of Four**

#### **ASHRAE Membership - The Grades**

The following is an excerpt from *ASHRAE Bylaws 2012*:

**"Section 2.1 Grades of Membership.** These shall be designated as follows: (A) Honorary Member, (B) Presidential Member, (C) Fellow, (D) Life Member, (E) Life Associate Member, (F) Member, (G) Associate Member, (H) Affiliate Member, and (I)

Student Member."

For our chapter's Associate Members (check your membership card), there is a clear path to Member.

"A Member shall have the equivalent of twelve Society-approved years of experience composed of an approved combination of (a) completed education beyond high school, (b) work experience, and (c) professional engineering or related professional registration or license issued by a legally authorized body."

There is a link on this newsletter's left-hand column taking you to ASHRAE's form for membership advancement.

### **Article Three of Four**

#### **YEA - Young Engineers in ASHRAE**

From the *Young Engineers in ASHRAE* publication, YEA purpose is...

"To ensure the future of the Society and the industry, ASHRAE is committed to advancing its programs and services for young members through helping them build their professional foundations. With this in mind, ASHRAE created a committee called Young Engineers in ASHRAE (YEA), for members age 35 and younger!"

The entire brochure is available [here](#).

## Article Four of Four

### ASHRAE's 2014 Fall Online Courses

Learn from your desktop with “real time” instructor-led courses from the ASHRAE Learning Institute Earn Continuing Education Credits.

The following is the current list of courses:

- [Commissioning for High-Performance Buildings](#)
- [Building Demand Response & the Coming Smart Grid](#)
- [Combined Heat & Power: Creating Efficiency through Design & Operations](#)
- [District Cooling & Heating Systems: Central Plants](#)
- [Maximizing Customer Benefits Using Key Electric Utility Products](#)
- [Energy Efficiency in Data Centers](#)
- [Healthcare Facilities: Best Practices for Design & Applications](#)
- [Design of Commercial Ground Source Heat Pumps](#)
- [Exceeding Standard 90.1-2013 to Meet LEED® Requirements](#)

For additional information including registration, discounts and multiple participants, click [here](#).

**End of Articles**

If there is content you would like to contribute to a future newsletter, please [contact me](#).

Your comments and questions are always welcome.

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