



## JANUARY 6, 2004 MEETING INFO

Les Freres TAIX

1911 Sunset Blvd., Los Angeles, California

**5:30 Technical Forum: Clean Room Filtration**  
**Mr. Mr. Dave Benson**

**6:05 Social Hour (Fun Time!)**

**6:45 Dinner**

\$25 with reservation

\$30 without reservation

\$10 student member

**7:45 Main Program: Clean Room Contracting**  
**Speaker: Mr. Kent Peterson**

**9:00 Meeting Ends**

Reservations: Dale Au/Brenda Montmarquet (626) 961-9640, Fax (626) 961-9041 by Mon., January 5, 2004.

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## JANUARY MAIN MEETING: CLEAN ROOM CONTRACTING

*Speaker: Mr. Kent Peterson*

Kent Peterson, P.E., has worked as a consulting engineer for over twenty years and has a reputation for providing creative design solutions. He is the Chief Mechanical Engineer and a Principal of P2S Engineering in Long Beach, California. His design experience includes a wide range of projects including industrial, educational and high-tech manufacturing facilities.

Mr. Peterson is currently serving as an ASHRAE Vice-President and chairs the ASHRAE Technology Council overseeing all the technical activities, research and standards for ASHRAE. He has chaired numerous ASHRAE committees and is a past member of ASHRAE TC 1.2, Instruments and Measurements, TC 1.4, Control Theory and Application and GPC 13, Guideline for Specifying Direct Digital Control Systems. Mr. Peterson has authored a number of papers and articles.

### Designing Central Chilled Water Systems

Engineers have many decisions to make when designing central chilled water systems today. Many of these decisions require extensive consideration of elements beyond the perimeter of the plant. Some of these questions include:

- ❖ What diversity factors can be used in sizing chilled water systems?
- ❖ How can the design delta T be achieved?
- ❖ What effect does delta T have on chiller performance?
- ❖ What plant configuration best fits the requirements?
- ❖ What control strategies should be used?
- ❖ How do you select the proper chillers, cooling towers and pumps?
- ❖ When is thermal storage viable?

### Designing Cleanroom HVAC Systems

Cleanrooms are utilized in semiconductor, pharmaceutical, biotech and other industries to control product contamination during manufacturing. HVAC systems typically require air to be filtered to an acceptable level along with precise temperature, humidity and pressurization control. His presentation focuses on the fundamentals of cleanrooms, how to design HVAC systems for cleanrooms, trends in the industry and how to overcome these challenges while still providing an energy efficient system.

*(continued on page 2)*



*Robert H. Woods, President,  
Southern California Chapter, ASHRAE*

## **From the President's Desk**

The Joint Meeting was well attended. A special thanks to Air Conditioning Specialties, CalDyn, Cristopia Thermal Energy Storage, Dawson Co, DB Sales, Ductsox, J.D. Sales, M. W. Sausse, R F. MacDonald Co, Toro Aire, and Weil Aquatronics for displaying a tabletop. Engineers, please support the manufacturers that support ASHRAE, you and your industry. The question was asked, "Did ASHRAE miss the boat on code input?" As an organization, have we collectively failed to step up to the plate? From my standpoint, I don't think so. ASHRAE has worldwide influence. People I've talked to over the years have stated to me that ASHRAE standards and guideline are what drives the codes in their respective localities including Europe. How many non-profit organizations actively promote research to increase the base knowledge of the industry. ASHRAE brings a lot to the table, and we're constantly updating and improving! Are we a political action committee? Ostensibly, no nor should we be, that's not the role of ASHRAE. We are the consulting experts. If ASHRAE's past accomplishments are indicative of its future influence and input, then this organization measures up in my book. We, as an organization are responsive to change, as well as envisioning the future direction of the HVAC Industry. Our future looks bright. Safety and environmental comfort are at the forefront what ASHRAE does. This is an altruistic organization. I'm very proud and truly honored to be representing the Southern California Chapter as your President. My advice is: if you're not a member, become a member. If you are a member join a committee and get involved. Like most things in life, you get out what you put in. Thank you.

## **January Main Meeting: Clean Room Contracting**

*(continued from page 1)*

### **The Role of Controls for Acceptable IAQ**

Controls play an important role in HVAC system compliance with ASHRAE Standard 62 "Ventilation for Acceptable Indoor Air Quality". The selection and operation of ventilation controls for recirculation systems must consider many factors to be effective in maintaining air quality. These factors include the control of temperature, humidity, source contaminants and ventilation air. This paper will discuss the role of controls in providing system compliance with Standard 62.1 including:

- ❖ Control component selection and maintenance considerations
- ❖ The role of humidity control to minimize growth of allergenic or pathogenic organisms
- ❖ Ventilation Rate Procedure control functions
- ❖ CO<sub>2</sub> control techniques

### **Effectively Communicating Control Strategies in the Sequence of Operations**

Many HVAC&R designs today lack an adequate Sequence of Operations. System designers are tasked with designing energy-efficient functional systems to meet a given design criteria. We select equipment components and assemble them into these functional systems. It is essential to document the intended system operation and interaction in the Sequence of Operations. Many decisions require a thorough understanding of elements controlled and their effect on other system parameters. This presentation will discuss how to effectively communicate system operational parameters for others to understand and provide a logical way for engineers to approach conveying the information.

## JANUARY TECH FORUM: CLEAN ROOM FILTRATION

Speaker: Mr. Dave Benson

David Benson is originally from San Diego California. Received his BS in Industrial Technology from Cal Poly San Luis Obispo in 1979. Upon graduation moved to Oregon where he began his working career. He has worked at Intel where his original assignment was as a HVAC design engineer, responsible for design projects associated to the Wafer fab facilities at Intel's Oregon operations. While employed at Intel assignments ranged from project manager to operations manager. Mr. Benson then went to Lattice Semiconductor to start operations in Portland and became their 12th employee as Director of Facilities. As a Director, his responsibilities included participation of site selection, Facilities design, Wafer Fab Cleanroom design, and process tool selection support. His next job was at Pace where he was responsible for the formation of the CleanPak division, a group targeted specifically for Cleanroom application in the Semiconductor industry. Participating in a team approach successfully launched the division in an air handling manufacturing company. Currently Mr. Benson is the founder and president of HUNTAIR, where he was responsible for all aspects of the company initial funding and start up. Although President, daily activities are extensively involved in sales and Marketing activities of the company.

## SOUTHERN CALIFORNIA CHAPTER PROGRAM SCHEDULE

### January 6, 2004

Tech Program: Clean Room Filtration

Speaker: Mr. D. Benson

Main Program: Clean Room Contracting

Speaker: Mr. Kent Peterson

### February 3, 2004

Tech Program: Hex Selection

Speaker: Mr. Frank Dunn

Main Program: Plan and Spec vs. Design and Build

Speakers: Mr. Larry Sun & Mr. Pete Narbonne

### March 2, 2004

Tech Program: Demand Control Ventilation

Speaker: Mr. Lonnie Lee

Main Program: Usgbc/Leed Affects

Speaker: Mr. Tom Lunneberg

### April 6, 2004

Tech Program: Steam Considerations

Speaker: Mr. R.F. MacDonald

Main Program: Hospital Design

Speaker: Chief Engineers of Arup & Syska

### May 4, 2004

Tech Program: Primary Secondary Pumping

Speaker: Mr. Terry Motes

Main Program: Sustainable S&H Design

Speaker: Mr. Rob Bolins

### June 12, 2004

Installation Dinner/Dance

### Western Section Programs

- ❖ November 11, 2003: Harry's  
Location: 3313 State St., Santa Barbara, CA 93105
- ❖ December 9, 2003: Sportsman  
Location: 53 S. California St., Ventura, CA 93001
- ❖ January 13, 2004: Harry's  
Location: 3313 State St., Santa Barbara, CA 93105
- ❖ February 10, 2004: Sportsman  
Location: 53 S. California St., Ventura, CA 93001
- ❖ March 9, 2004: Harry's  
Location: 3313 State St., Santa Barbara, CA 93105
- ❖ April 13, 2004: Sportsman  
Location: 53 S. California St., Ventura, CA 93001
- ❖ May 11, 2004: Harry's  
Location: 3313 State St., Santa Barbara, CA 93105
- ❖ June 8, 2004 (Open)


## HELP WANTED

Anybody wishing to place an ad in this column for an engineering or other position, please submit your request to:

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**DECEMBER HIGHLIGHTS**

Due to technical difficulties, the Editor apologizes for not having pictures for a well-attended event. Hope everyone had a happy and safe holiday!



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