BAS Summit

Wednesday, 14 September 2022 - Thursday, 15 September 2022

IARC

Book of Abstracts

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Unhosted Drinks & Dinner at the historic Two Brothers Round House in Aurora

Note: Significant others are welcome to join us this evening at Two Brothers!
205 N Broadway, Aurora, IL

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Introduction to ASHRAE Guideline 36

Author: Robert Knight[1]

[1] *Arup*

Corresponding Author: robert-g.knight@arup.com

ASHRAE Guideline 36 "High Performance Sequences of Operation for HVAC Systems" was published in 2018 and updated in 2021. It provides standardized sequences of operation for common HVAC equipment found in commercial buildings, including central plant, air handling units, and terminal units. It aims to deliver direct benefits that include reduced design effort, reduced programming and testing effort, improved air quality, and improved energy performance. It also makes

possible additional downstream benefits such as interoperable programming environments, interoperability between programming and energy models and design models, and similar advantages of standardization among common equipment applications.

This presentation reviews the contents of the Guideline, explains how the Guideline is intended to be implemented, reviews the extent of current industry adoption of the Guideline, and shares some "watch-its" related to implementing the Guideline. Attendees should leave the presentation with better understanding of what the Guideline can do, what it cannot do, and what is required from stakeholders if a project decides to adopt Guideline 36 sequences.

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enOcean Wireless Integration

Author: Jeffrey Paige[1]

[1] *Los Alamos National Laboratory*

Corresponding Author: jtpaige@lanl.gov

Confronted by aging buildings with continually evolving primary functions, a solution to overcome common retrofit issues such as solid ceilings, asbestos concerns, GPR requirements, and operational interruptions, is needed. The option of integrating wireless sensors into a BAS network provides useful benefits compared to traditional I/O in some key scenarios at Los Alamos National Laboratory. This presentation will demonstrate the pros and cons of several pilot projects at LANL as well as address some key challenges with regards to BAS integration, design considerations, network security concerns, and future servicing.

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BAS Upgrades – Trials and Tribulations

Authors: Jason Mayfield[1]; Travis Maser[2]

[1] *Sandia National Labs - Albuquerque, NM*

[2] *Sandia National Labs - New Mexico*

Corresponding Authors: wtmaser@sandia.gov, jmayfie@sandia.gov

This presentation will look at the existing Building Automation System at Sandia National Laboratories and where it is headed. Existing BAS limitations must be understood in order to update the system in a way that supports both regulatory requirements and future mission needs. Implementation challenges will also be explored.

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BACnet SC – Secure Connect

Author: Bennet Levine Controls[None]

In our presentation we will discuss basics of BACnet, some of the types of BACnet and how these were used to create BACnet/SC, a secure type of BACnet. We will discuss BACnet/SC, its features, network requirements and security requirements. We will also discuss public key encryption which is how BACnet/SC provides its security.

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NREL's Zero Energy Analytics and Dashboard

Author: Stephen Frank[1]

[1] *National Renewable Energy Laboratory*

Corresponding Author: stephen.frank@nrel.gov

The National Renewable Energy Laboratory's (NREL's) Research Support Facility (RSF), constructed in 2011, was designed as a zero energy building and achieved LEED Zero Energy certification in 2020. Recently, NREL developed a new dashboard for monitoring the RSF's ability to maintain zero energy operation through major building changes related to COVID and remodeling. The dashboard engages operators and occupants to clearly communicate the building's zero energy performance. This presentation describes the dashboard requirements, design features, and technical implementation.

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