ASHRAE HAWAII CHAPTER

# Duct System Acoustics

**Patrick Brooks, PE, Senior Project Manager for SMACNA**

THIS PRESENTATION COVERS THE FUNDAMENTALS OF CALCULATING DUCT SYSTEM ACOUSTICS. THE DESIGNER WILL LEARN WHAT NOISE IS, HOW TO MATHEMATICALLY COMBINE NOISE LEVELS IS AND HOW TO CONTROL NOISE IN DUCT SYSTEMS. FREQUENCY AND AMPLITUDE AND HOW PEOPLE PERCEIVE NOISE ARE IMPORTANT CONCEPTS THAT ARE ALSO COVERED. THE DESIGNER WILL ALSO LEARN THE DIFFERENCE BETWEEN SOUND POWER AND SOUND PRESSURE AND HOW TO CONVERT SOUND POWER LEVELS TO SOUND PRESSURE. THE RANGE OF HEARING AND THE PROBLEMS WITH LOW FREQUENCY NOISE VS HIGH FREQUENCY NOISE IS DISCUSSED. NATURAL ATTENUATION OF DUCT ELEMENTS AND HOW TO DETERMINE IT WILL BE REVIEWED. HOW TO SOLVE ACOUSTIC PROBLEMS USING DISTANCE, SILENCERS AND DUCT INSERTION LOSSES ARE EXAMINED AS WELL AS HOW NOISE CRITERIA (NC) LEVELS ARE USED.

**A 1 Hour Virtual Discussion**

**$10 Members**
**$20 Non-Members**
**$10 Students***

***Reimbursed if attended**

## Wednesday
## November 30th
**12:00p-1:00p HST**

**Patrick Brooks, PE**
SMACNA

**http://ashraehawaiichapter.info/**

**Web link will be sent out prior to virtual event.**