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## Pao Hall for the Visual and Performing Arts

### Overlapping Research and Development Foci:

- Room acoustics and modeling: designing high quality sound reinforcement systems for a variety of public spaces
- Measurements: testing and calibration of sound reinforcement loudspeaker systems
- Sound Localization: Measurement and testing of human response to sound localization; development of new loudspeaker playback systems to enhance sound imaging in live performance environments

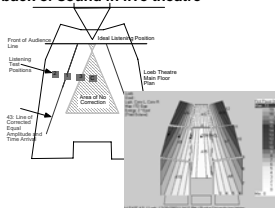
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## Example Research Projects

- Investigation of a Forgotten Approach to Large Room Stereo Sound Delivery (Graduate Research by Tom Falgien)
- Testing and verification of W.B. Snow's 1938 theory to use multiple loudspeakers to create better stereo imaging over a wider audience space
- Potential uses include stereo playback of sound in live theatre

**Selected reference:** Brown, Jim. "Systems for Stereophonic Sound Reinforcement: Performance Criteria, Design Techniques, and Practical Examples." Audio Engineering Society Convention Paper NY: NY, 2003.



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## Example Research Projects (cont.)

- Comparison of Acoustic Modeling Programs and Acoustic Measurement Systems (Graduate Research by Kyle Ridenour)
- Development of a system to compare data generated by acoustic modeling programs such as EASE and CATT Acoustic with real world measurements by program including SMAART and MAPP
- Potential uses include Sound System Design and Calibration

**Selected reference:** Scidel, F., and Staffeldt, H.. "Frequency and Angular Resolution for Measuring, Presenting, and Predicting Loudspeaker Polar Data." *Journal of the Audio Engineering Society* 44 (1996) : 555-568.

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## Some Current Research Efforts

- Effective Envelopment and Surround sound system design with a limited number of transducers
- Abe Jacob: The Godfather of Live Sound; biography of legendary Broadway Sound Designer who developed most of the technologies still in use today on the Broadway stage;
- Design As Performance: an interactive performance using acoustic and electronic sensors that trigger sound and visual sequences; actor controlled sound and visual designs

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